Draft Systematic Review
Number XX

Improving Cultural Competence to Reduce Health Disparities for Priority Populations

Prepared for:
Agency for Healthcare Research and Quality
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Contract No.

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Suggested citation:

Preface

The Agency for Healthcare Research and Quality (AHRQ), through its Evidence-based Practice Centers (EPCs), sponsors the development of systematic reviews to assist public- and private-sector organizations in their efforts to improve the quality of health care in the United States. These reviews provide comprehensive, science-based information on common, costly medical conditions, and new health care technologies and strategies.

Systematic reviews are the building blocks underlying evidence-based practice; they focus attention on the strength and limits of evidence from research studies about the effectiveness and safety of a clinical intervention. In the context of developing recommendations for practice, systematic reviews can help clarify whether assertions about the value of the intervention are based on strong evidence from clinical studies. For more information about AHRQ EPC systematic reviews, see www/effectivehealthcare.ahrq.gov/reference/purpose.cfm.

AHRQ expects that these systematic reviews will be helpful to health plans, providers, purchasers, government programs, and the health care system as a whole. Transparency and stakeholder input are essential to the Effective Health Care Program. Please visit the Web site (www.effectivehealthcare.ahrq.gov) to see draft research questions and reports or to join an e-mail list to learn about new program products and opportunities for input.

We welcome comments on this systematic review. They may be sent by mail to the Task Order Officer named below at: Agency for Healthcare Research and Quality, 540 Gaither Road, Rockville, MD 20850, or by email to epc@ahrq.hhs.gov.

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Improving Cultural Competence to Reduce Health Disparities for Priority Populations

Structured Abstract

Objective. To examine existing system-, clinic-, and individual-level interventions to improve culturally appropriate health care for people with disabilities, gender and sexual minority populations, and racial-ethnic minority populations.

Data sources. Ovid MEDLINE®, PsycINFO®, Ovid Embase®, and the Cochrane EPOC; hand searches of references of relevant studies.

Review methods. Two investigators screened abstracts and full-text articles of identified references for eligibility. Eligible studies included randomized controlled trials (RCTs), prospective cohort studies, and other observational studies with comparators that evaluated cultural competence interventions aimed reducing health disparities in the formal healthcare system for three priority population groups: people with disabilities, gender and sexual minority populations, and race and ethnic minorities. Two investigators abstracted data and assessed risk of bias. Since evidence was sparse, qualitative analysis and description of research needs is provided.

Results. Over 20,000 non-duplicated, English language citations were reviewed; 48 eligible publications were identified as of October, 2014: 18 RCTs for individuals with disabilities; five RCTs (six manuscripts) and six observational studies for gender and sexual minority populations; and 16 RCTs and two systematic reviews for members of racial and ethnic minorities. Interventions fell into three broad categories: 1) provider trainings and education, 2) alteration of an established protocol, or the delivery of an established protocol, to meet the needs of a target population, and 3) interventions aimed at prompting competent care at the point of service.

Provider training is the most prevalent type of cultural competence intervention. Several short-term effects were evaluated, however, long-term effects of provider training on provider behavior in the clinical setting and subsequent patient health outcomes have not been evaluated. Further, one such intervention reported an unintended consequence, possibly the result of reinforcing stereotypes or increasing stigma.

Another common type of intervention was providing additional resources specifically designed for the target population. These studies met inclusion criteria if the intervention was conducted by a medical professional in a formal healthcare system. These programs tended to weigh heavily on common identity and cultural attributions and, in some cases, were less effective in subpopulations that were less tied to the community.

Five system level interventions were identified that address disparities in one of the target populations. The most prominent example of such an intervention was patient-held medical records that prompt providers to evaluate areas of known disparity for a specific population. These point-of-care interventions were seen in all three population groups.

Methodological problems were pervasive. The most common methodological problems were: lack of randomization to treatment, lack of attention control, little or no followup, and failure to report unintended consequences. For the large majority of included studies, the risk of bias was high. Large segments of vulnerable or disadvantaged populations, such as children with disabilities, people who may be gender nonconforming or transgender, or numerous racial or ethnic groups, including Native Americans or Alaskan Natives, remain essentially invisible in the cultural competence literature. This is compounded for people who are members of more than one priority population.

Conclusions. The literature is sparse. Cultural competence is ill-defined, particularly in the gender and sexual minority and disability populations, and is often conflated with patient-centered or individualized care. Significant between and within group variation in population visibility also affects interventions to reduce disparities.

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Chapter 1. Introduction

Background

The U.S. healthcare system needs to reduce health disparities and achieve better equity for all patients. Culturally competent care is seen as foundational for reducing disparities through culturally sensitive and unbiased care. Culturally competent care respects diversity as well as the cultural factors that can affect health and health care, such as language, communication styles, beliefs, attitudes, and behaviors.[1] The Office of Minority Health, Department of Health and Human Services, has established national standards for culturally and linguistically appropriate services (CLAS) in health and health care (National CLAS Standards). These provide a blueprint for implementing appropriate services to improve health care in the United States.[2] The standards cover governance, leadership, workforce; communication and language assistance; organizational engagement, continuous improvement, and accountability.

A lack of conceptual clarity around cultural competence persists both in practice and among researchers. Cultural competence is defined, conceptualized, and operationalized in a variety of ways. This variance leads to disagreement around the training needed for providers to attain cultural competence.[3] The populations to which the term cultural competence applies are also ill-defined. Often, the term cultural competence is applied only to racial and ethnic populations. This narrow application omits other marginalized groups who may be ethnically and racially similar to a provider but nonetheless at risk for stigmatization or discrimination, or who have differences in healthcare needs that result in health disparities. This broader concept may be termed "diversity competence." In keeping with this broader view and AHRQ's commitment to a comprehensive approach to priority populations, this systematic literature review considers three populations experiencing health disparities in the U.S. health system: individuals with disabilities, gender and sexual minority (GSM) populations, and racial and ethnic minority populations. These groups are not mutually exclusive; the cultural competence movement continues to evolve in response to an increasingly multicultural society.

In addition to provider education and training, changing clinical environments can also be key to improving culturally competent care. Changes in provider knowledge, attitudes, and skills are necessary, but for those gains to translate into culturally competent behaviors the structures and culture of health care systems and organizations must also change. This review focuses on the effectiveness of interventions at the provider and system level. Policy level interventions are important, but beyond the scope of this review.

Interpretation and significance of outcomes differs by priority population. Access is important to all priority populations. However, individuals with disabilities may face multiple barriers, such as transportation to facilities and accessibility of exam rooms and their contents. Similarly, linguistic competence means something different in relation to a person for whom English is a second language compared a person with an expressive communication limitation who uses an augmentative communication system or a person who may be gender nonconforming or transgender.

The review request originated from general concerns regarding pervasive disparities in care for adults and children that may be associated with GSM, disability, and race/ethnicity. Consideration of cultural competence is usually focused on racial or ethnic minority adults, thus creating a gap in evidence-based information in racial or ethnic minority children, individuals with disabilities, and GSM people. This systematic literature review considers the effect of cultural and diversity competence interventions on three populations with varying degrees of

cultural identification and visibility: GSM adolescents and adults, children and adults aging with disabilities, and racial/ethnic minority children and adults.

As noted, the concept of cultural competence overlaps with several other concepts related to providing high-quality, appropriate care. Figure 1 illustrates a few of these overlapping concepts. Conducting a systematic review requires clarity about whether interventions fall inside or outside of the scope of cultural competence. We focus mainly on whether cultural competency interventions change the clinicians' behaviors (e.g., communication and clinical decisionmaking), the patient-provider relationship, and/or clinical systems to result in better outcomes for patients from the priority populations. Some public health outreach activities, such as community-based HIV education in underserved African American neighborhoods, or school-based empowerment programs for young people with disabilities, may address an unmet need. However, such studies are not included in this review, because our focus is on the patient-provider interaction and the system of care surrounding that interaction. Within the clinical context, interventions aimed at improving care for all patients (such as patient-centered care), are excluded unless the intervention is specifically tailored to one of this review's populations of interest. This review focuses on interventions that promote equity, thus the primary outcomes of interest are reductions in disparities between populations for a given health outcome measure.

Figure 1. Health services research concepts that overlap with cultural competence
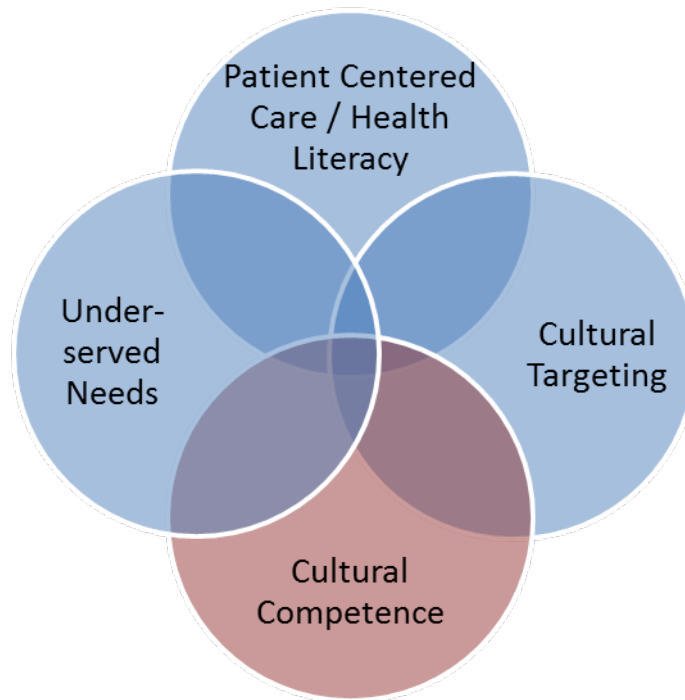
Includable interventions that lie within the Cultural Competence circle in Figure 1 are defined as:

- Interventions that take place at the system level, engineering a system that prompts physicians to pay attention to areas of known, such as equitable receipt of preventive care or chronic disease management. For example, people with disabilities commonly experience an identifiable set of health conditions secondary to the disability such as urinary tract infections, asthma, obesity, hypertension, and pressure ulcers.[4]

- Interventions that address physical barriers to access.
- Interventions that improve the ability of providers to provide health care services to patients from priority populations. Targeted providers can include physicians, nursing staff, allied health professionals, paraprofessionals, and clinic staff who have regular contact with patients, or health system factors intended to engineer the system to support and sustain cultural competence.
- Interventions that educate providers to help them better understand cultural components of clinical encounters with different populations and their own inherent biases.
- Interventions that assist patients from priority populations to competently navigate the patient-provider relationship and the larger health system

As the overlapping circles in Figure1 suggest, some interventions targeted at meeting underserved needs fall outside our scope, such as interventions to address access problems due to finance/insurance coverage issues (such as Medicare/Medicaid), individualized or patient-centered care that is not culturally tailored, and general health literacy interventions.

Report Organization

This report is organized in several chapters. The next sections of this introductory chapter present the key questions, analytic framework, and brief overview of study selection methods for the three priority populations. Following this introductory chapter, we present the systematic reviews conducted for each of the priority populations. Each of these chapters is intended to stand alone for readers interested in specific priority populations. Chapter 2 presents the systematic review of literature for the disability populations, while Chapters 3 and 4 present the reviews for the GSM communities and the racial and ethnic minorities, respectively. The report concludes with Chapter 5, a review of the models that have contributed to different conceptualizations of cultural competence, and an overarching discussion of cross-cutting themes identified in the reviews for the priority populations.

Key Questions and Analytic Framework

The key questions (KQs), the populations, interventions, comparators, outcomes, timing, and settings (PICOTS), and analytic framework were posted for public comment from February 6, 2014, to February 26, 2014.

KQ1: What models have been used to conceptualize cultural competence and culturally appropriate care in health contexts, and how do those models compare?

KQ2: What is the effectiveness of interventions to improve culturally appropriate care for GSM adolescents (ages 13-17), young adult (18-25), and adults?
   A. Provider intermediate outcomes
      o Provider training and motivation outcomes, such as post-test competencies, knowledge, changes in attitudes
      o Provider beliefs/cognitions about the priority population, such as reducing stereotyping and stigmatization
      o Improved specific knowledge of health needs unique to GSM community
      o Provider behavior, such as clinical decision-making, communication
   B. Patient intermediate outcomes

- o Patient learning/knowledge, including linguistic competence regarding gender-diversity
- o Improved access to health services
- o Utilization of health services
- o Patient experience and satisfaction, such as improved perceptions of care
- o Patient health behaviors, such as tobacco use or health seeking behaviors
- o Use of preventive services
C. Final health or patient-centered health outcomes, including but not limited to:
- o Improved mental health outcomes, such as depression, anxiety, suicidality, peer/familial/intimate relationships, substance use
- o Improved medical health outcomes, such as reduction in obesity, improved sexual health
D. Adverse events; unintended negative consequences of intervention

KQ3: What is the effectiveness of interventions to improve culturally appropriate health care for children and adults with disabilities?
A. Provider intermediate outcomes
- o Provider training and motivation outcomes, such as post-test competencies, knowledge, changes in attitudes, willingness to serve and perceived competence in service people with disabilities
- o Provider behavior, such as clinical decision-making, communication
- o Provider beliefs/cognitions the priority population, such as reducing stereotyping and stigmatization
B. Patient intermediate outcomes
- o Improved access to health services
- o Utilization of health services
- o Patient experience and satisfaction, such as improved perceptions of care
C. Final health or patient-centered health outcomes, including but not limited to:
- o Improved mental health outcomes, such as depression, substance use
- o Improved medical health outcomes, such as reduction in obesity, metabolic disorders, heart disease, breast cancer
- o Patient health behaviors, such as tobacco use or health seeking behaviors
- o Use of preventive services, and other access to care measures
D. Adverse effects; unintended negative consequences of interventions

KQ4: What is the effectiveness of interventions to improve culturally appropriate health care for racial/ethnic minority children and adults?
A. Provider intermediate outcomes
- o Provider training and motivation outcomes, such as post-test competencies, knowledge, changes in attitudes, willingness to serve and perceived competence in service people with disabilities
- o Provider behavior, such as clinical decision-making, communication
- o Provider beliefs/cognitions about the priority population, such as reducing stereotyping and stigmatization
B. Patient intermediate outcomes
- o Patient beliefs/attitudes such as improved trust, perceived racism
- o Utilization of health services
- o Patient experience and satisfaction, such as improved perceptions of care

- o Patient health behaviors, such as tobacco use or health-seeking behaviors
- o Use of preventive services, and other access to care measures
C. Final health or patient-centered health outcomes, including but not limited to:
- o Improved mental health outcomes, such as depression, substance use
- o Improved medical health outcomes, such as reduction in obesity, kidney disease, heart disease, breast cancer, sickle cell disease
D. Adverse effects; unintended negative consequences of interventions

KQ5: What is the effectiveness of organizational or structural interventions for promoting culturally appropriate care for each of the priority populations across providers?

Table 1 provides the PICOTS by the key questions, and Figure 2 the analytic framework.

Table 1. Review PICOTS

PICOT	KQ2	KQ3	KQ4	KQ5
Population	GSM adolescents (ages 13-17), young adults (ages 18-25) and adults. Overall gender disparities experienced by women (in relationship to men) and biological sexual development and disorders of sexual development are excluded.	Children and adults with disabilities, with older adults, focus on aging with a disability, rather than aging into a disability.	Racial/ethnic children and adults	Based on populations for KQs 2-4
Intervention	• Cultural competence/culturally appropriate care provider education and training • Cultural competence/culturally appropriate care clinic-based interventions targeted to patients • Cultural competence/culturally appropriate care clinic-based interventions targeted to providers	Same as KQ2	Same as KQ2	• Cultural competence/culturally appropriate care interventions targeted at the organizational level, including physical/ environmental factors.
Comparator groups	• Usual care • Head-to-head trials of different strategies	Same as KQ2	Same as KQ2	Same as KQ2
Outcomes	Intermediate outcomes • Provider training and motivation outcomes (competencies, knowledge, changes in attitudes) • Provider behavior, such as clinical decision-making, communication • Provider beliefs/cognitions about the priority population, reducing stereotyping, stigmatization • Provider improved specific knowledge of health needs unique to LGBT community • Patient learning/knowledge • Utilization of health services	Intermediate outcomes • Provider training and motivation outcomes (competencies, knowledge, changes in attitudes) • Provider behavior, such as clinical decision-making, communication • Provider beliefs/cognitions about the priority population, reducing stereotyping, stigmatization • Improved access to health services • Utilization of health services • Patient experience/satisfaction	Intermediate outcomes • Provider knowledge, attitudes, and competencies (skills) in providing culturally competent health care • Provider behavior, such as clinical decision-making, communication • Provider beliefs/cognitions about the priority population, reducing stereotyping, stigmatization • Patient beliefs/cognitions such as improved trust, perceived racism • Improved access to health services	Intermediate organizational adaptation outcomes • Process measures • Availability of culturally competent health care across population groups • Structural changes

	• Patient experience/satisfaction • Patient health behaviors • Use of preventive services and other access to care measures Final health or patient-centered outcomes – reduced disparities in terms of • Patient medical care outcomes • Patient mental health care outcomes (depression, anxiety, suicidality, substance use, peer/familial/intimate relationships) Adverse effects of intervention(s) • Unintended negative consequences of intervention	Final health or patient-centered outcomes – reduced disparities in terms of • Patient medical care outcomes • Patient mental health care outcomes (depression, substance use) • Patient health behaviors • Use of preventive services and other access to care measures Adverse effects of intervention(s) • Unintended negative consequences of intervention	• Utilization of health services • Patient experience/satisfaction • Patient health behaviors • Use of preventive services and other access to care measures Final health or patient-centered outcomes – reduced disparities in terms of • Patient medical care outcomes • Patient mental health care outcomes (depression, substance use) Adverse effects of intervention(s) • Unintended negative consequences of intervention	
Timing	Variable – depends on the purpose of the intervention	Same as KQ2	Same as KQ2	Same as KQ2
Setting	Inpatient, outpatient, and community settings in which patients from priority populations are interacting with healthcare providers.	Same as KQ2	Same as KQ2	Same as KQ2

GSM=gender and sexual minorities; KQ=Key Question

Figure 2. Analytic framework for improving cultural competence to reduce disparities in priority populations

(KQ2c, 3c, 4c)

Models of cultural competence/culturally appropriate care

Cultural competence/culturally appropriate care strategies

(KQ 1)

priority patient populations, clinicians, and healthcare systems

(KQ 2a,b,3a,b,4a,b, 5)

(KQ 2d, 3d, 4d)

Provider Intermediate Outcomes
- Provider training and motivation
- Provider behaviors
- Provider attitudes, beliefs, cognitions toward target group
- Organizational adaptation

Final Health Outcomes
- Patient medical care outcomes
- Patient mental health outcomes

Patient Intermediate Outcomes
- Patient knowledge and health behaviors
- Patient belief/cognitions
- Patient experience/ satisfaction
- Access to care

Unintended negative consequences of interventions

Methods Overview

Because each of the priority populations is categorically different from the others, unique search algorithms to identify potential literature and inclusion/exclusion and decision rules for identifying the included literature set was established for each population. However, in the screening process, all the priority populations were similar in that the study design needed to test an intervention that was part of the formal healthcare system (e.g., located at clinic, led by nurse, or treatment of a specific health condition that could be delivered within the formal healthcare system) and that it went beyond framing the study as addressing a health disparity by using an intervention explicitly tailored to be more culturally competent. For the disability and GSM priority populations, studies that passed through screening to this level were included. Because the race/ethnic populations have a longer history of cultural competence intervention, we further required that the study explicitly tested the cultural competency component of the intervention. Figure 3 illustrates the hierarchy used to identify relevant studies.

Figure 3. Study selection by strength of study design to test cultural competence (CC) within the healthcare system
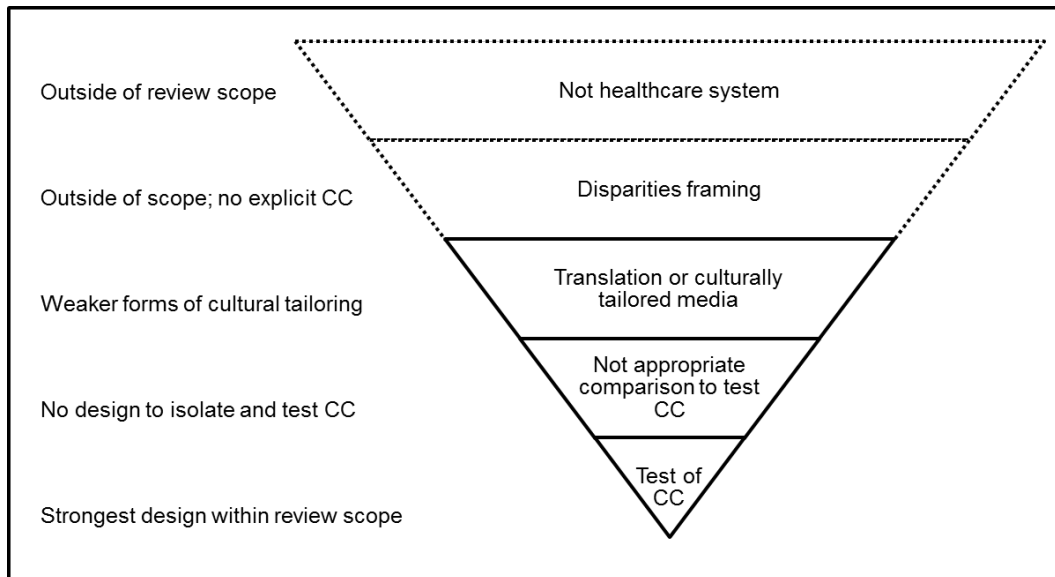
Studies that specifically addressed cultural competence varied in the degree to which interventions were tailored to incorporate key components of cultural competence and the directness of the test of culturally competent healthcare. We excluded interventions in which cultural tailoring was limited to language translation, patient-provider concordance, or culturally-tailored media (e.g., brochures, videos). The intervention had to be designed to improve cultural competence of the health care system. Only translating or adding multicultural features to materials was not sufficient.

We anticipated sufficient literature to apply full systematic review methods including possible meta-analysis. Anticipated methods were outlined in the protocol. However, given the paucity of literature identified using systematic review search methods, the heterogeneity of the study populations and interventions, small study samples, the lack of details for complex interventions and comparators, and the high risk of bias assessment for most of the included studies, we determined the strength of evidence for cultural competence interventions, in general, to be insufficient and thus we were unable to draw meaningful conclusions from the literature. Therefore, we summarized the results into evidence tables and conducted a qualitative synthesis, grouping synthesis results using emergent patterns from identified interventions, and evaluating the challenges of the literature the present barriers to forming inferences from study results. Where we were able to use previously published systematic reviews that evaluated strength of evidence, we report that review's strength of evidence finding.

Chapter 2. Disability Populations

Introduction

Americans with disabilities represent a large and heterogeneous segment of the population. The prevalence of disability varies by age group and definition. Based on the 2013 *American Community Survey* (ACS)*,* the U.S. Census Bureau, which describes disability in terms of functional limitations, 12.6 percent of the civilian U.S. noninstitutionalized population (which excludes people living in institutional settings such as nursing homes) has a disability (defined as difficulty in hearing or vision, cognitive function, ambulation, self-care, or independent living). The U.S. Department of Education (2012), which uses categorical disability labels, estimates that 13 percent of children and youth ages 3 to 21 have disabilities (defined as specific learning disabilities, speech or language impairments, intellectual disability, emotional disturbance, hearing impairments, orthopedic impairments, other health impairments, visual impairments, multiple disabilities, deaf-blindness, autism, traumatic brain injury, or developmental delay).

Health Disparities

The International Classification of Functioning, Disability, and Health (ICF) describes body functions and structures, activities and participation, environmental factors, and personal factors that interact to influence a person's function and disability.[5] Within the ICF framework, health disparities research examines how differences in health activities, healthcare participation, and health outcomes relate to differences in body function or structure, personal characteristics (such as age, sex, race, sexual orientation, health conditions, fitness, life experience, individual psychological assets, education, socioeconomic status), or features of the immediate (settings such as home, workplace and school) or societal (such as social structures, services, social networks, laws, rules, attitudes, and ideologies) environment in which a person lives.

People with disabilities experience many health disparities. Some documented disparities include poorer self-rated health; higher rates of obesity, smoking, and inactivity; fewer cancer screenings (particularly mammography and Pap tests); fewer breast conserving surgeries when breast cancer is diagnosed; and higher rates of death from breast or lung cancer.[6]

Health disparities research has undergone four generations: 1) documenting the disparities, 2) exploring possible reasons for the disparities, 3) providing evidence for solutions, and 4) moving towards structural, multi-level interventions.[7] This review focuses on studies that test interventions to reduce health disparities (third and fourth generation disparities research). However, disability health disparities research is largely first generation,[8] focused on accurately documenting the healthcare disparities experienced by its diverse subpopulations. Documenting health care disparities is difficult for many reasons, including the presence of multiple disability subpopulations and ways of defining these subpopulations, and the lack of national surveillance data for specific subpopulations that results in many small, convenience sample studies.[9]

Cultural Competence

Cultural competence has been widely promoted as one approach to reduce health disparities. Since cultural competence remains variously defined and operationalized, it has become a blanket term to describe a broad range of system- or provider-level interventions. Initially, cultural competence focused mostly on racial and ethnic differences. More recently, it has been expanded to other marginalized population groups who are at risk for stigmatization for reasons

other than race and ethnicity and/or who have differences in healthcare needs that result in health disparities. People with disabilities comprise some of these other populations. Eddey and Robey described professional competencies related to the culture of disability including: communicating with patients who have verbal deficits; understanding the values of people with disabilities and of disability culture including interdependence; and encouraging self-advocacy for patients and families.[10]

Scope and Key Questions

Scope of the Review

This review examines the evidence for the effectiveness of system- or provider-level cultural competence interventions designed to address known or suspected health disparities among individuals with disabilities. We do not address policy-level evaluations. Clarity about which interventions fall within the scope of cultural competence and which do not is important but challenging. We focus mainly on interventions that aim to change the clinicians' behaviors (such as communication and clinical decision-making), the patient-provider relationship, and/or clinical systems to result in better outcomes for patients with disabilities. Within the clinical context, interventions aimed at improving care for all patients (such as patient-centered care, patient-centered medical homes, health literacy), are excluded unless the intervention is specifically adapted to people with disabilities. The primary interest was whether disparities were reduced between populations for a given health outcome measure.

Key Question

KQ: What is the effectiveness of interventions to improve culturally appropriate health care for children and adults with disabilities?

PICOTS

Table 2 provides the populations, interventions, comparators, outcomes, timing, and settings (PICOTS) of interest. The analytic framework can be found in Chapter 1 and Appendix A.

Table 2. Review PICOTS—disability populations

PICOT	
Population	Children and adults described as having disabilities, with older adults' focus on aging with a disability, rather than aging into a disability
Intervention	Cultural competence/culturally appropriate care provider education and training Cultural competence/culturally appropriate care clinic-based interventions targeted to patients Cultural competence/culturally appropriate care clinic-based interventions targeted to providers
Comparator groups	Usual care Head-to-head trials of different strategies
Outcomes	Intermediate outcomes • Provider training and motivation outcomes (competencies, knowledge, changes in attitudes) • Provider behavior, such as clinical decisionmaking, communication • Provider beliefs/cognitions about the priority population, reduction in stereotyping and stigmatization • Improved access to health services • Utilization of health services • Patient experience/satisfaction Final health or patient-centered outcomes—reduced disparities in terms of

PICOT	
	• Patient medical care outcomes • Patient mental health care outcomes (depression, substance use) • Patient health behaviors • Use of preventive services and other access to care measures Adverse effects of intervention(s) • Unintended negative consequences of intervention
Timing	Variable—depends on the purpose of the intervention
Setting	U.S. inpatient, outpatient, and community settings in which patients from priority populations are interacting with healthcare providers.

Methods

This review followed the methods suggested in the ARHQ Methods Guide for Effectiveness and Comparative Effectiveness Reviews (available at http://www.effectivehealthcare.ahrq.gov/methodsguide.cfm); certain methods map to the PRISMA checklist.[11] We recruited a technical expert panel to provide high-level content and methodological expertise feedback on the review protocol. The protocol was posted on July 8, 2014 at http://effectivehealthcare.ahrq.gov/search-for-guides-reviews-and-reports/?pageaction=displayproduct&productid=1934. This section summarizes the methods used.

Literature Search Strategy

We searched Ovid MEDLINE®, PsychInfo, and Cochrane EPOC from 1990, when the concept of cultural competence gained traction, to October 2014. As the concept of cultural competence interventions in the disability community is not well defined, the initial search cast a wide net into the disability literature. Searches were performed iteratively to identify concept boundaries and tighten the working definitions and eligibility criteria to balance search sensitivity and specificity with feasible numbers of references to screen. The initial search strategy included an extensive list of intervention terms, including cultural competence specific search strategies developed for the race/ethnicity literature and more general terms targeting health accessibility and health promotion. These more general terms were included because the exemplar articles identified by members of the technical expert panel were focused on improving physical access to care for individuals with disabilities and reminding providers to see the "whole person" with regard to providing preventive care and care for comorbid conditions. The health promotion, primary prevention, and health service accessibility terms had the greatest yield and were, therefore, the focus of the revised search. Other terms included in the revised search highlighted attitudes of health personnel, healthcare disparities, and the presence of stigma. The final search algorithms are provided in Appendix B. We also manually searched reference lists from systematic reviews and used back and forward searching of key articles recommended by experts.

Study Selection

We reviewed bibliographic database search results for randomized controlled trials (RCTs) systematic reviews, nonrandomized controlled trials, before and after case reports with comparators, and interrupted time series studies published in English language relevant to our PICOTS framework. All studies identified at title and abstract as relevant by either of two

independent investigator underwent full-text screening. Two investigators independently performed full-text screening to determine if inclusion criteria were met.

The full team vetted initial search results and adopted inclusion decision rules to clarify search results to address the review scope. This led to several refinements to the inclusion criteria. Patients with non-severe mental health conditions, such as mild to moderate depression, did not meet our disability criteria; therefore interventions integrating mental health services into primary care did not meet inclusion criteria. However, interventions targeting the attitudes of physicians toward people with mental illness, to the extent the condition qualifies as a disability, were eligible and included.

We had difficulty drawing tight boundaries around the interventions because the disability literature is often not identified by the terms "cultural competence" or "culturally appropriate." Under our normative definition of cultural competence for this population, remote (e.g., web- or phone-based) medicine as an intervention was deemed culturally competent to the extent that it increases access for people for whom travel is difficult due to their disabilities. Although these interventions are not "clinic-based," virtual interventions involving the formal health system (essentially replacing the need to go to the doctor's office) create access in a unique way for the target population. These interventions are seen as conceptually parallel to infrastructure changes that improve access for people with physical disabilities.

Interventions aimed at improving physician or patient knowledge of existing treatment guidelines for conditions experienced by people with disability are not included unless they also targeted physician perceptions and/or patient access to care. School-based interventions targeting the attitudes of teachers, classmates, and other professionals were excluded as outside the scope of this review, as were studies aimed at changing the attitudes of providers of long-term disability supports and services in community settings. Only studies that examined interactions with formal healthcare providers were included. As a result, several trials aimed at improving wellness and secondary disease prevention among people with disabilities in home and community settings, including some virtual interventions, were excluded.

We also expanded the criteria to include studies from other developed countries that tested interventions that could possibly transfer to U.S. healthcare.

In order to focus on the literature most likely to be informative, we also found it necessary to create decision rules for study comparators. Studies that used comparators that did not allow for direct testing of the cultural competence intervention/intervention component were excluded.

Differences of opinion regarding eligibility were resolved through consensus adjudication.

Risk of Bias, Data Extraction, Synthesis, and Presentation

We evaluated the risk of bias in included studies according to study design using criteria from the Cochrane risk-of-bias tool in interventional studies (Appendix D). Given the paucity of literature identified, the heterogeneity of the study populations and interventions, small study samples, the lack of details for complex interventions and comparators, and the high risk of bias assessment for most of the included studies, we determined the strength of evidence for cultural competence interventions, in general, to be insufficient and thus we were unable to draw meaningful conclusions from the literature. Therefore we focused on summarizing the results into evidence tables and conducted a qualitative synthesis, grouping synthesis results using emergent patterns from identified interventions, and evaluating the challenges of the literature the present barriers to forming inferences from study results. One investigator abstracted the

relevant data from eligible trials directly into evidence tables. A second investigator reviewed evidence tables and verified them for accuracy.

Results

Literature Search Results

We identified 12,048 unique English language citations (Figure 4) from 1990 to October 2014. After excluding articles at title and abstract, full texts of 139 articles were reviewed to determine final inclusion. Appendix C lists the 122 articles excluded after full text review. One included article was recommended by a member of the technical expert panel.

Figure 4. Literature flow diagram—disability populations

| Initial references = 15,263 | → | Excluded duplicates and non-English = 3,215 |

| Unique references = 12,048 | → | Excluded at title and abstract screen = 11,909 |

Full text review = 139	→	Excluded at full text review
		Documents attitudes or disparities = 52
		Design = 35
		No formal system / health promotion = 18
		Care coordination / patient-centered care = 8
		Virtual care, not access focused = 4
		Patient education only = 4
		Intervention not tailored to population = 1

| Included = 18 | ← | Handsearched included = 1 |

Fourteen of the 18 included studies were RCTs; four were controlled trials.[17,21, 23,12] Included studies fall into three main categories: interventions, predominantly trainings and curricula, aimed at changing professionals' attitudes towards individuals with disabilities (n=11); interventions aimed at increasing quality at the point of care by prompting patient and physician interaction (n=4); and interventions aimed at reducing barriers to accessing care (n=3). Table 3 describes the included studies by intervention type, disability population and provider population. Studies were generally high risk of bias (Appendix D). Since the risk of bias and heterogeneity of the studies precluded any strength of evidence other than insufficient, we describe the studies by emergent patterns.

Table 3. Cultural competence intervention type by disability and provider populations.

Type of Cultural Competence Interventions	Number of studies	People with a mental illness or substance use disorder	People with a physical disability	People with an intellectual or learning disability	People with lower back pain	Children with ADHD	People with multiple sclerosis	People with arthritis
Trainings and curricula aimed at changing professional attitudes towards individuals with disabilities	11	Student nurses Clement, 2012[13] Medical Students Friedrich, 2013[14] Kassam, 2011[15] Papish, 2013[16] Pharmacy Students O'Reilly, 2011[17] Mental Health Nurses Munro, 2007[18]	Nursing Students Goddard, 1998[19] Medical Students Kirby, 2011[20] Symons, 2014[21]	Medical Students Symons, 2014[21] Primary Care Nurses Melville, 2006[12]	Physical Therapy Students Domenech, 2011[22]	NF	NF	NF
Interventions that prompt interaction between patients and physicians to increase quality at point of care	4	NF	NF	Primary Care Physicians Lennox, 2007[23] Turk, 2010[24] Dentists Meurs, 2010[25]	NF	Primary Care Physicians Wolraich, 2005[26]	NF	NF
Virtual interventions that reduce barriers to accessing care	3	Clinical Psychologists Knaevelsrud, 2010[27]	NF	NF	NF	NF	Occupational therapists Finlayson, 2011[28]	Masters Prepared Counselor Shigaki, 2013[29]

*The Symons et al.[21] curriculum addresses physician attitudes toward various disability types including: sensory, physical and intellectual disabilities. Therefore, this article appears in two population categories. NF=not found

Among the 11 studies aimed at changing professionals' attitudes through training or curricula, the majority focused on changing the attitudes and beliefs of medical (n=5),[14-16,20,21] nursing (n=2),[13,19] pharmacy (n=1),[17] or physical therapy (n=1)[22] students. Two studies targeted practicing professionals: one studied primary care practice nurses;[12] and one studied mental health nurses.[18] Six studies focused on physician attitudes toward people with a mental illness,[13-18] three focused on attitudes toward people with a physical disability,[19-21] two studies focused on attitudes toward people with an intellectual disability,[12,21] and one study focused on attitudes towards people with lower back pain.[22] One study focused on a dually diagnosed population that had mental health and substance use concerns.[18]

All four studies aimed at increasing quality at the point of care by prompting patient and physician interaction were conducted in the primary care setting, three focused on people with

intellectual or learning disabilities, and one focused on children with attention-deficit hyperactivity disorder.

The three studies aimed at reducing barriers to accessing care were delivered by psychologists, occupational therapists, and masters prepared counselors for people with mental illness, one focused on people with arthritis, and one focused on people with multiple sclerosis.

Interventions Aimed at Changing Health Professionals' Attitudes

The framing of these articles generally spoke to reducing stigma,[13,14,16,17] changing stereotypic views,[15,18] filling gaps in training and understanding,[12,21] and familiarizing physicians with supportive equipment.[20] Table 4 summarizes the 11 studies of trainings or curricula aimed at changing health professionals' attitudes toward persons with disabilities.

Table 4. Summary of interventions targeting provider attitudes by disability type

Study, Design, Setting	Aim	Sample Size, Population	Intervention, Comparators	Reported General Findings
Clement, 2012[13] Randomized trial University, UK	To compare the effect of a DVD or a live intervention followed by discussion, and a lecture control in reducing stigma about mental illness	216 student general nurses	Video vs. live interventions with similar content: personal narratives and experiences from mental health consumers and providers vs. lecture on stigma	Both intervention formats decreased stigmatizing attitudes and increased intended social proximity compared to control.
Domenech, 2011[22] Cluster-randomized trial University, Spain	To determine the effect of two brief educational modules (biopsychosocial or biomedical) on the attitudes of students and changes in the recommendations given to their patients	170 second-year physical therapy students	Education based on the biopsychosocial model of lower back pain management vs. lectures on the biomechanics of the spine	Intervention participants had more positive attitudes and less fear in recommending general physical activity for people with lower back pain.
Friedrich, 2013[14] Randomized trial Four medical schools, UK	To determine the effect of a voluntary training to reduce mental health stigma on medical students' mental health-related knowledge, attitudes, and intended behavior	1,452 third-year medical students at baseline, 625 immediately after intervention, 137 at 6 month followup	Lecture, stories from patients and providers about mental health problems and stigma and role plays in small groups vs. no intervention	Intervention group had improvements in mental health stigma-related knowledge, attitudes, intended behavior at immediate followup but not at 6 months.
Goddard, 1998[19] Pre-Post, historical control University, Texas	To determine the effect of Sensitivity Lab on students' attitudes toward persons with disabilities immediately after the lab and at 6 weeks and 6 months	121 nursing students enrolled in course on a chronic illness	Sensitivity Lab, 8 hours: 1) simulation of various disabilities, 2) panel presentations by persons with disabilities and their caregivers, 3) small groups discussion vs. same course with no Sensitivity Lab	Nursing students had relatively positive scores on the Attitudes Toward Disabled Persons scale, with no significant differences between groups.
Kassam, 2011[15] Clustered trial University, UK	To compare the effect of 3 interventions on students' mental illness related knowledge, attitudes and behavior toward people with mental illness	188 third-year medical students at baseline, 110 with pre- and post-scores	Presentation (1 hour) on mental illness related stigma including personal testimonies from a patient and caregiver and discussion vs. presentation plus role-plays (20 minutes) vs.	Knowledge increased in both of the intervention arms compared with the control, but with no differences in physician attitudes or behaviors.

			no intervention	
Kirby, 2011[20] Randomized trial University, Canada	To assess the effect of workshop tailored for undergraduate medical students in improving wheelchair-related knowledge, skills, and attitudes	26 first- and second-year medical students	Wheelchair Education Workshop (4 hours: 45 minutes lecture, 2 hours wheelchair skill practicing, 1 hour community experience, a 15 minute debrief) vs. no intervention	Intervention group had higher scores on the written wheelchair knowledge test and practical wheelchair skills examination, with no difference in attitudes between the groups.
Melville, 2006[12] Controlled trial Glasglow, Scotland	To assess the effect of training for nurses designed to reduce access barriers for people with intellectual disabilities on nurses' knowledge and self-efficacy	123 nurses in primary care	Training pack (45 pages) plus face-to-face training (3 hours, on knowledge and self-efficacy in care for people with intellectual disability) vs. training pack only vs. no intervention	The combination group had increased knowledge and self-efficacy compared with the no intervention, with no difference between the training pack only group and the other two arms.
Munro, 2007[18] Randomized trial Mental health, community or hospital-based Scotland	To assess the impact of training on the therapeutic attitudes and knowledge of nurses who work with people with co-existing substance use and mental health problems	49 mental health nurses	4 days of training including small interactive groups and lectures vs. no intervention	Intervention group had improved attitudes immediately following the intervention and sustained at 6 months. Knowledge improved over time for both groups with no difference them.
O'Reilly, 2011[17] Randomized trial University of Sydney, Australia	To assess the impact of delivering Mental Health First Aid (MHFA) training for pharmacy students on their mental health literacy and stigma towards mental illness	272 (60 intervention, 212 control) third-year undergraduate pharmacy students	MHFA course (12 hours) plus standard curriculum (9 hours plus community pharmacy placement) vs. standard curriculum only	Intervention group improved in social distance, ability to correctly identify a mental illness, and confidence in providing services in mental illness.
Papish, 2013[16] Cluster-Randomized trial University of Calgary, Canada	To examine the impact of a one-time contact-based educational intervention on stigma of mental illness among medical students enrolled in a multimodal psychiatry course	111 second-year medical students	Contact-based intervention (2 x 1-hour patient stories of mental illness) at the beginning vs. end of 4-week mandatory psychiatry course	Stigma toward mental illness improved for both groups after the course, with no difference between groups in the primary analysis. Stigma remained greater for mental illness than type 2 diabetes mellitus.
Symons, 2014[21] Controlled study Two public medical schools, NY	To examine the effect of a longitudinal curriculum designed to improve medical students' knowledge, attitudes, and skills pertaining to care of persons with disabilities	244 medical students	First 3 years of 4-year curriculum addressing care for people with disabilities integrated into existing curricula (lectures from community agencies, interactions with individuals with disabilities, presentations of clinical encounters, and a precepted clincial experience treating a person with a disablity) vs. standard curriculum	Intervention group improved in comfort with people with disabilities, but worsened in negative perceptions that people with disabilities are resentful and expect special treatment.

Table 5 summarizes the common characteristics and modalities of included interventions aimed at changing provider attitudes toward persons with disability. The majority of interventions included direct contact with a person with a disability. Of the 11 included articles in this category, seven interventions included direct contact with people with disabilities,[13-17,19,21] three included role playing with people with disabilities or actors playing the part of a person with a disability,[14,15,21] and one included a person with a disability as a trainer.[12] Eight studies used one-time trainings or experiences of varying intensity,[12-15,17-20] two developed university curricula,[16,21] and one tested different approaches to teaching subject matter (biomedical vs. psychosocial models of lower back pain).[22] One older study used a simulation in which providers "assumed various disabilities" for a certain amount of time[19] and one focused on medical students learning to use wheelchairs.[20] These last two simulation studies may be considered controversial or outdated methods of competency training by members of the disability community. Simulation exercises do not accurately portray the experience of having a disability, may have the effect of reinforcing negative stereotypes toward members of the population, and make disability an individual, instead of societal problem.[30]

Table 5. Aggregate of interventions targeting provider attitudes by disability type

Disability Population	Target of Intervention					Intervention Characteristics				Modalities	
	Medical Students	Nursing Students	Pharmacy Students	Physical Therapy Students	Nurses	Direct Contact	Role Playing	Trainer with Disability	Simulation	Training Sessions / One-time Experience	University Curricula / Theoretical Approach
People with a mental illness[13-18]	3	1	1		1	4	2			5	1
People with a physical disability[19-21*]	2	1				2	1		1	2	1
People with an intellectual disability[12,21]	1				1	1	1	1		2	1
People with lower back pain[22]				1							1

*The Symons et al.[21] curriculum addresses physician attitudes toward various disability types including: sensory, physical and intellectual disabilities. Therefore, this article appears in two population categories.

The form of the comparators varied. For the five studies that used no-intervention control, the duration of the five interventions ranged from 4 hours to 4 years.[14,18-21] The three studies that stated using the equivalent of a "usual care" control group generally embedded education or training components within curriculum that was otherwise relevant compared to the curriculum without the added component.[16,17,22]For example, one study compared a 12-hour Mental Health First Aid (MHFA) training program plus the standardmental health curriculum to the standard mental health curriculum alone for pharmacy students.[17] In addition to testing whether training is more effective than no training or usual care, three studies considered the comparative effectiveness of delivery modality[13] and intensity.[12,15] For example, one study had three arms: watching a DVD of individuals with mental health disabilities and their caregivers describe their experiences of mental health stigma followed by a researcher-facilitated discussion; the same testimonies delivered live, followed by a research-facilitated discussion delivered live; or a lecture on stigma provided by a mental health nurse researcher (no direct or indirect contact with consumers or care providers).[13] All three arms were roughly 75 minutes long.[13]

Table 6 organizes the studies by outcomes studied. Seven studies measured the effect of a training or curricular intervention on provider attitudes or stigma, five measured provider knowledge, three measured provider treatment confidence, and three measured providers' intended social proximity. No studies examined clinical outcomes with a controlled design, although one of the included studies assessed nurses' self-reported changes in clinical behavior following the intervention to improve the accessibility of care for people with intellectual disabilities.[24] Reported results were mixed.

Table 6. Reported key study outcomes for trials aimed at changing provider attitudes

	Reducing Stigma or Changing Attitudes	Knowledge	Self-Efficacy or Treatment Confidence	Intended Social Proximity or Behavior
Clement, 2012[13]	↑ (DVD or live vs. control)	↔ (DVD or live vs. control)	NM	↑ (DVD or live vs. control)
Friedrich, 2013[14]	↔ (Initial gains lost at 6 months)	↔ (Initial gains lost at 6 months)	↔ (Initial gains lost at 6 months)	↔ (Initial gains lost at 6 months)
Goddard, 1998[19]	↔	NM	NM	NM
Kassam, 2011[15]	↔	↑ (Either intervention arm vs. control)	NM	NM
Melville, 2006[12]	NM	↑ (Live vs. control) ↔ (Packet vs. control)	↑ (Live vs. control) ↔ (Packet vs. control)	NM
Munro, 2007[18]	↑ (Sustained for 6 months)	↔	NM	NM
O'Reilly, 2011[17]	NM	↑	↑	↑
Papish, 2013[16]	↑ (Course vs. control) ↔ (One-time vs. control)	NM	NM	NM
Symons, 2014[21]	↕	NM	NM	NM

↑ Significant positive findings, ↔ No significant findings, ↕ Positive and negative statistically significant findings, NM=not measured;

Common outcomes included measures of stigma or attitudes,[12-19,21] knowledge,[12,14,15,17,18] self-efficacy or treatment confidence,[12,14,17] and intended social proximity or behavior (e.g., comfort working with someone with a mental health problem).[13,14,17] Scales used to measure stigma or attitudes included: the Attitudes toward Persons with Disabilities Scale,[19,20] Community Attitudes toward the Mentally Ill (CAMI) scale,[14] Opening Minds Scale for Health Care Providers (OMS-HC),[16] the Mental Illness: Clinicians Attitudes Scale (MICA) scale,[13,15] and the Emotional Reactions to Mental Illness Scale (ERMIS).[13] Intended social proximity was measured by Reported and Intended Behaviour Scale (RIBS).[13,14] Knowledge was measured using the Mental Health Knowledge Schedule (MAKS).[14] The Jefferson Scale of Physician Empathy was used by one study.[14] Munro developed a knowledge questionnaire called the Comorbidity Problems Perceptions Questionnaire (CMPPQ).[18]

Two trials reported outcomes that did not fit into Table 6. One study found students with the biopsychosocial lower back pain education had more positive attitudes and less fear in recommending general physical activity for people with lower back pain leading to more guideline consistent recommendations for work and activity.[22] In the other study, knowledge and skills measured were specific to wheelchairs.[20] Students in the intervention had statistically higher scores on the written wheelchair knowledge test and practical wheelchair skills

examination compared with controls.[20] No difference in attitudes was observed between the intervention and control groups.[20]

Interventions Prompting Interaction Between Patients and Physicians

Table 7 summarizes four trials that tested the effect of providing information or prompting clinician behavior at the point of patient interaction on the care received during that interaction.

Table 7. Interventions targeting the physician-patient interaction

Study, Design, Setting	Aim	Sample Size, Population	Intervention, Comparators	Reported General Findings
Lennox, 2007[23] Clustered-randomized trial at the general practitioner level Primary care, Australia	To determine the effectiveness of a Comprehensive Health Assessment Program (CHAP) vs. usual care on health promotion and prevention among adults with intellectual disabilities (IDs)	453 adult participants with intellectual disability in 34 clusters of primary care physicians	CHAP (21-page booklet: medical history; prompt for physician to perform a targeted examination; list of commonly unrecognized or poorly managed conditions within the ID population; guide for caretaker to complete a health action plan) vs. usual care	Most health promotion and disease prevention outcomes in the CHAP arm were significantly increased compared with control.
Meurs, 2010[25] Randomized trial Two dental care centers, Netherlands	To investigate whether information about a patient who is intellectually disabled would result in better cooperation. during a first dental visit.	58 people with intellectual disability	Questionnaire (e.g. on patient communication preferences, completed by guardians) read by the dentist prior to the visit vs. limited patient information (age, medical condition)	Providing additional information to the dentists did not increase patient cooperation during the dental encounter, regardless of disability severity.
Turk, 2010[24] Cluster-randomized trial at practice level UK	To test the effect of a patient-carried personal health profile (PHP) for people with learning disabilities on number of visits per year, communication, and number of health problems reported	201 adults with learning disabilities in 40 practices	PHP (hand held health record with overview of relevant conditions and dependent on participation of both providers and patients or caregivers) vs. usual care	No difference between groups in annual visits, knowledge, or communication; increased reporting of health outcomes in the PHP group.
Wolraich, 2005[26] Longitudinal US	To test the effect of an information and communication session between parents, teachers, and primary care providers of children with ADHD on coordination of care	234 students (Only 34% of students randomized to the intervention arm had a parent receive the intervention, and only 19% had a PCP receive the intervention.)	1-hour session with the child, parent, teacher, and/or physician (focused on sharing information about the student with ADHD between all parties) vs no intervention. Tools included: teacher, parent, and PCP contact sheets; daily report cards; medication side-effects checklists; and a parent ADHD manual.	The intervention did not increase communication, defined as the number of times there was verbal or written communication between physicians and teachers

ADHD=Attention Deficit Hyperactivity Disorder; CHAP=Comprehensive Health Assessment Program; IDs=intellectual disabilities; PHP=personal health profile

These interventions aimed to reduce disparities in provision of health or dental preventative care to individuals with intellectual or neurobehavioral learning disabilities. The United Kingdom and Australia have implemented health checks for individuals with intellectual disabilities on a large scale. Two previously published reviews[31,32] examined small (two studies per review) bodies of literature and found that annual health checks using patient-carried records with clinical prompts were effective in improving preventive care outcomes. Our search was broader than the previously published reviews; we considered all interventions (not restricted to health checks) that promote cultural competence by directing the attention of providers to areas of known health disparities, and we consider all populations with a disability (not restricted to intellectual disability). However, casting a wider net identified only two additional trials of lesser quality.[25,26]

Reported outcomes varied widely across the included studies due to differences in patient populations and intervention aims. Outcomes tended to be related to use of healthcare services such as prevention, promotion, and annual visits. Reported results were also mixed.

Several study limitation should be noted. Unlike the CHAP tool that clearly prompted physician behavior (similar to checklist interventions), the Meurs et al. questionnaire provided a large amount of information without a pathway for action. The authors identified not giving the dentists enough time to "digest" this information as a potential study limitation.[25] The intervention drew additional attention to limitations of the person without assisting the dentist to identify strategies to change his or her approach to be more culturally competent. Further, this study offered no opportunity for patients and/or caregivers to rate the physicians on the interaction. The Turk study had low participation rates.[24] At followup, 20 percent of care providers in the intervention arm stated they had not been given a PHP, only 18 percent of patients and 39 percent of care providers who said they received the PHP reported using the tool, and less than a third of care providers who said they received the PHP reported taking the tool to a primary care visit.

Interventions Improving Access to Care

The three trials on access to care are part of a much larger literature on virtual care for people with disabilities. Many virtual access articles were excluded during title/abstract screening because the intervention occurred outside the formal healthcare system; that is, the study did not involve health care practitioners delivering health care virtually, or the focus of the study was not creating access for a disability population of interest. One trial was excluded during full text screening because the focus of the study was not on providing access to a priority population but on comparing individualized online treatment to a more general online program.[33] Further, part of the individualized intervention involved travel to interact with the formal healthcare system (physical therapists); "patients were invited to group meetings once every 3 months…where new exercises were demonstrated by the physical therapists, extra information about exercise and arthritis was given, and patients' experiences were exchanged." (p. 936)[33]

The inclusion status of the final included set was influenced by article framing. Articles were framed as follows: "Despite the findings supporting the Managing Fatigue program [for people with multiple sclerosis], its major limitation to date has been its inaccessibility to individuals who cannot travel to the community sites where the program is offered;" (p.1131)[28] "The Internet might provide an alternative information and treatment opportunity for people who avoid care because of concerns about the stigma of receiving mental health treatment;" (p.73)[27]

"For individuals with RA, travel may be difficult due to pain or functional limitations;" (p. 1578)[29]

Table 8 summarizes the included studies providing virtual access to care.

Table 8. Summary of Interventions providing virtual access to care

Study, Design, Setting	Aim	Sample Size, Population	Intervention, Comparators	Reported General Findings
Finlayson, 2011[28] Randomized trial US	To test the effect of a small-group teleconference on fatigue management among adults with MS	191 people with MS	Six 70 minute weekly group teleconferences delivered by licensed occupational therapists vs. waitlist	Intervention had improved fatigue impact, sustained at 6 months, but no difference in fatigue severity, self-efficacy.
Knaevelsrud, 2007[34] Randomized trial Netherlands	To test the effect of a therapist-led CBT writing intervention on PTSD symptoms	95 people with PTSD	A CBT-based writing intervention delivered by doctoral-level clinical psychologists via email (10 over 5 weeks) vs. waitlist	Intervention group has improved PTSD and mental health symptoms, sustained at 18 months, with no difference in physical health.
Shigaki, 2013[29] Randomized trial US	To test the effect of an RA self-management intervention and weekly phone call on symptoms, self-efficacy, quality of life	108 people with RA	RAHelp (10 week online cognitive-behavioral self-management group program) plus weekly one-to-one15-30 minute phone call vs. waitlist	Intervention group has improved self-efficacy and quality of life, sustained at 9 months, with no effect on health status or pain.

CBT=cognitive behavioral therapy; ITT=intention to treat; MS=multiple sclerosis; PTSD=post-traumatic stress disorder; RA=rheumatoid arthritis

While all of the studies in this group used a virtual access to care intervention, each study used different populations, intervention characteristics, and targeted outcomes. Use of waitlist controls was the only element common across studies.

The primary outcomes for the teleconference intervention aimed at managing fatigue in individuals with MS include: fatigue severity (measured using the Fatigue Impact Scale [FIS], fatigue impact (measured using the Fatigue Severity Scale [FSS]), and health-related quality of life (measured using the SF-36 Quality of Life Scale).[28] An intent to treat analysis found significant effects of the intervention on all three subscales of the fatigue impact severity measure and the role physical subscale of the SF-36; fatigue severity and self-efficacy did not differ significantly, and nor did the other seven domains of the SF-36.[28]

Primary outcomes of the therapeutic writing intervention for PTSD include measures of: symptoms of posttraumatic stress (Impact of Event Scale, IES-R), depression and anxiety (SCL-90), self-reported physical and psychological function (SF-12), and patient and therapist agreement (Working Alliance Inventory, WAI).[27,34] Participants in the intervention arm showed significant improvements over time on all measures except physical health, compared with the waitlist control.[34]

RA online outcomes included rheumatic disease specific self-report of health status and well-being (Arthritis Impact Measurement Scales 2, AIMS2), an arthritis specific self-efficacy measure (Arthritis Self-Efficacy Scale, ASES), depression (Center for Epidemiologic Studies

Depression Scale, CES-D), quality of life (QLS-15), measure of joint and pain tenderness (Rapid Assessment of Disease Activity in Rheumatology, RAPID), a measure of social connectedness (Social Provisions Scale, SPS), and a measure of loneliness (University of California, Los Angeles Loneliness Scale, version 3, LS-3).[29] Immediately after interventions, significant gains in self-efficacy and quality of life were observed; these gains were maintained for 9 months post-intervention.[29]

Discussion

Overview

Few studies addressed interventions that could be interpreted as cultural competency interventions for people with disabilities. The target disability populations for the located studies varied both between and within the intervention types, with many disability populations overlooked. Training interventions aiming to change professionals' attitudes and towards people with disabilities showed the broadest coverage, yet six of the 11 studies focused on attitudes towards people with mental health disabilities. Interventions aimed at increasing point-of-care quality by engineering health systems to support cultural competence focused exclusively on patients with intellectual or developmental disabilities. Interventions aimed at reducing barriers to accessing care focused mostly on disease-specific patient populations with functional limitations.

Nine of the 11 included trainings or curricula studies developed for students, not working professionals. Many of the available studies were not designed to capture how well initial knowledge gains or changes in attitudes are sustained over time.[14] Two included studies found results were not sustained; one found sustained change 6 months post intervention. The effectiveness of these interventions depends on students applying their pre-service training to their work in clinical settings.

Cultural competence implies a finite process in which the physician or system acquires skills, awareness, and a body of knowledge regarding the general characteristics of a minority population. Critiques of cultural competence interventions argue they should train students to be lifelong learners of cultural humility, or to use a continual process of self-reflection and self-critique in the face of differences.[35,36] Furthermore, as the Symons et al. study demonstrated, there may be associated with training interventions, including an increase in negative attitudes toward the target population,[21] and attention to unintended consequences is important. Symons et al. was the only included study that reported a potential harm. There is no evidence that the other included studies considered negative outcomes of treatment.

Trainings were largely successful at reducing stigma and increasing positive attitudes toward the target population. However, before and after evaluations of self-reported outcoimes are likely subject to desirability bias, and little is known about the long term effects of such trainings on patient-centered outcomes. Interventions that prompt physician and provider interaction at the point of contact may have more long-term success; however, these types of interventions are less well studied. Three international studies examined the effectiveness of interventions aimed at decreasing disparities by affecting physician and system behavior at the point of patient contact. The only US study in this category had significant methodological limitations. Lennox's work in Australia to standardize and direct physician attention to known areas of disparities experienced by people with intellectual or developmental disabilities during a routine health visit shows promise.[23] However, the effectiveness of interventions like the one described by Lennox for

people with intellectual or developmental disabilities needs to be better documented in the United States. Further, we need more information about the potential utility of this intervention model for other subpopulations of individuals with disabilities. Finally, virtual care may have the potential to reduce access barriers experienced by those with physical disabilities or those for whom the stigma of treatment prevents use. However, few studies have examined access for these or other disability populations.

Research Directions

Many populations of persons with disabilities are completely absent from this review. Cultural competence is not a one-size-fits-all concept across populations that experience health disparities. Much of the work of the work team during this review was spent defining the concept of cultural competence for the disability population. Trainings and curricula were included, as they parallel interventions for other populations for whom cultural competence is better established. Point of contact prompts and virtual interventions may have the potential to reduce health disparities in this population. Other types of expected interventions were absent including RCT-level evidence for the effect of physical plant or structural alterations to health care settings on access for people with disabilities. Intervention types seem to be tied to disability types in the literature. Work is needed to conceptualize cultural competence to address inclusion of the many populations and interventions under the diverse disability umbrella.

The work of developing definitions for cultural competence as well as effective solutions for improving providers' knowledge and training in the health needs of people with disabilities should involve. While community-based participatory research with racial and ethnic groups has a fairly strong track record, much could be done to bring the perspective of people with disabilities into the research process. Future research on disability-related health care disparities and interventions to address them should target dimensions most important to people with disabilities and include more patient-centered outcomes. Including people with disabilities in research conceptualization and design is critical to identifying more effective solutions and producing evidence that could be understood and used by various stakeholders including people with disabilities.

Many subgroups exist within the disability populations with multiple perspectives, interests, and challenges. These differences can be further complicated by factors not directly attributable to disability such as rural or urban location, poverty status, or racial and ethnic differences. Interventions targeting the intersection of populations of interest (such as race and disabiltiy) were also not well researched for this population. Researchers have begun to document health disparities at the intersection of disability and race/ethnicity.[37-41] There is also movement to align disparities research across race/ethnic and disability populations.[8,40,42] However there is not a sufficient evidence base to conclude whether interventions used to promote racial and ethnic provider cultural competence will produce reductions in disparities when used to promote provider cultural competence for people with disabilities in healthcare contexts. Carefully designed studies conducted for race/ethnic and disability populations, as well as their intersection, are needed.

Only 4 of the 18 included studies were conducted in the United States. This raises questions regarding transferability of the included studies to the US healthcare system. Seventeen of the 18 included studies had a high risk of bias (Appendix D). Self-reported stigma and attitudinal outcomes are subject to social desirability bias, particularly from physicians after receiving a training. Future research should assess the effect of such trainings on patient care and patients'

perceptions of provider cultural competence. Nonrandomized study designs and high attrition also contributed to the overall high risk of bias. Without attending to methodological concerns, it will remain difficult to answer whether such interventions improve care and reduce health disparities.

Limitations

This review is limited by the difficulty of locating literature using either MeSH® terms or natural language keywords. This difficulty is exacerbated by the new extension of the concept of cultural competence to disability cultures. This, in turn, may be influenced by a lack of consensus among disability communities about whether disability is a "culture."

While care and attention was dedicated to defining the scope boundaries for this review, they are necessarily arbitrary, no clear lines of demarcation can be easily drawn to separate patient-centered care, health literacy, or other quality improvements from cultural competence. Interventions that focused solely on changing the patient (e.g., patient education and health promotion) were excluded because while they targeted a reduction in a health disparity experienced, they did not require change on the part of the physician or the healthcare system. We also excluded wellness and secondary disease prevention trials that did not target the formal health care delivery system or its providers. Those studies may, however, are relevant to the larger discussion of reducing health disparities in this population.[43-59]

Chapter 3. Gender and Sexual Minority Populations

Introduction

Cultural competence refers to efforts to reduce the cultural and linguistic barriers between patients and medical personnel that interfere with effective health care delivery.[60] In the early 1990s, the foci of cultural competency programs and trainings expanded from immigrant and English as a second language (ESL) populations to include all racial and ethnic minority populations experiencing healthcare disparities.[60] As a population that also experiences health disparities, the tenets of cultural competence may help reduce health disparities in gender and sexual minority (GSM) populations.[61]

Estimates of the size of the GSM populations are hindered by the lack of sexual orientation, sexual behavior, and gender identity items in national surveys.[62,63] The few nationally representative surveys that have collected GSM data highlight how different ways of operationalizing sexual orientation effect prevalence statistics, primarily whether or not the population includes only people who self-identify as lesbian, gay or bisexual, or includes people who report same-sex sexual behavior but identify as heterosexual. Bauer and Jairam, using data from the U.S. National Survey of Family Growth, found: 2.5 percent of female respondents between the ages of 20 and 44 identified as bisexual, and 1.4 percent identified as homosexual.[64] However, among women who ever had sex, approximately 12 percent had at least one female sex partner in their lifetime and 4 percent had one female sexual partner in the last year.[64] A similar pattern was found among men. Pethela et al. used data from the New York Community Health Survey and found: 3.7 percent of male respondents identified as gay, and 1.2 percent identified as bisexual.[65] National estimates of the proportion of men who have sex with men range from 2.9 percent in the past year to 6.9 percent ever.[65]

Available estimates suggest that almost nine million people in the United States identify as something other than heterosexual (e.g., gay, lesbian, bisexual, queer, pansexual, etc.) and an additional 10 million people who identify as heterosexual report engaging in sexual behavior with someone of the same sex.[66] Overall, approximately a quarter of Americans report some level of same-sex attraction.[66] For many people, the dimensions of sexual orientation – i.e., identity, attraction, and behavior – do not completely overlap. This discordance has implications beyond prevalence estimates; observed health disparities, and the interventions to address these disparities differ based on whether or not the population is defined by identity or behavior.[67-69]

Transgender and gender nonconforming people, i.e., people whose gender identity or expression are different from those typically associated with their assigned sex at birth, likely constitute less than 1 percent of the population, however demographic data for this population are sorely lacking.[70]

Terminology

In this report, several umbrella terms are used to capture individuals whose sexual orientation departs from the dominant social construction of heterosexuality (i.e., those who do not identify as heterosexual and/or who engage in same-sex sexual behavior), as well as individuals whose gender identity or expression differ from those culturally associated with their assigned sex at birth. These terms include: gender and sexual minority (GSM); lesbian, gay, bisexual, and transgender (LGBT); gay, bisexual, and other men who have sex with men (GBM); lesbian,

bisexual, and other women who have sex with women (LBW); men who have sex with men (MSM); and, women who have sex with women (WSW).

Although gender and sexual minority populations are often grouped together under the GSM or LGBT acronyms, it is important to note that sexual orientation and gender identity are distinct concepts, and capture different populations with distinct health and healthcare needs, concerns, and disparities. The following definitions were adapted from the 2011 Institute of Medicine Report on the Health of LGBT People:[62]

- o Gender identity—One's basic sense of being a man, woman, or other gender, such as transgender. "Gender minority" may be used to describe individuals and populations whose gender identity differs from the gender typically associated with their sex assigned at birth.
- o Sexual orientation—Encompasses attraction (i.e., sexual or romantic feelings for people of the same gender/sex, another gender/sex, or multiple genders/sexes), behavior (i.e., sexual or romantic activity with people of the same gender/sex, another gender/sex, or multiple genders/sexes), personal identity (i.e., one's conception of self as gay, bisexual, straight, etc.) and social identity (i.e., a sense of membership in a social group). "Sexual minority" may be used to describe individuals and populations whose sexual attraction, behavior, and/or identity are not exclusively heterosexual.

It is worth noting that it is difficult to reach consensus on language construction for this population. LGBT is probably the most widely used acronym. LGBT may exclude people who do not identify as lesbian, gay, bisexual or transgender but who are sexually or romantically involved with people of the same or multiple genders or sexes. However, behaviorally based terminology, including men who have sex with men (MSM) or women who have sex with women (WSW), may also be problematic as they may divide the LGBT or GSM community socioeconomically and fail to recognize the important role of identification and community membership.[71] The minority construction of the GSM acronym may also be concerning to many. The American Association of Medical Colleges (AAMC) has recently advocated the use of person-first language; instead of gay patient, patient who may be gay.[72] This construction is also not yet widely used or accepted.

The purpose of this report is not to resolve language disputes. For studies included in this report, terminology used to refer to LGBT people is consistent with the source publication whenever possible. However, we have chosen not to use the term homosexual to describe identity in this report, as that term is associated with recent periods in U.S. history when being gay was considered pathological and criminal.

Health Disparities

The most well-studied health disparity in the GSM population is HIV/AIDS incidence and prevalence. Men who have sex with men are 44 times more likely than heterosexual men to be newly diagnosed with HIV and differences in all-cause mortality rates between gay and heterosexual men are largely attributable to this disparity.[73] A large proportion of the research on GSM health has been dedicated to the incidence, prevention, and treatment of HIV/AIDS among men who have sex with men.[74,75] However, more recent evidence demonstrates that GSM populations face numerous additional health risks requiring intervention. For example, gay, bisexual, and other men who have sex with men have been found to be at increased risk of STIs other than HIV, such as syphilis, gonorrhea, chlamydia, human papillomavirus, and hepatitis A

and B;[76] lesbian and bisexual women are more likely to be obese and to use tobacco and alcohol than heterosexual women;[67,69,77,78] and gay, lesbian, and bisexual adolescents and young adults of all genders have higher rates of tobacco and alcohol use, unhealthy weight control, and risky sexual behaviors than their straight peers.[79-81] GSM populations also experience a greater prevalence of mental disorders, such as anxiety and depression, have higher rates of suicidal ideation and attempts, and are subject to significantly more emotional, physical and sexual trauma than straight and cisgender people, or individuals whose experience of their own gender matches their assigned sex at birth.[82-85] Individuals who identify as bisexual may experience more psychological distress compared with those who identify as heterosexual, gay, or lesbian.[82] Since the GSM population, like the straight population, is diverse in terms of race, ethnicity, disability status, socioeconomic status, and immigration status, risk factor disparities may be further intensified by intersecting identities and multi-minority statuses.[86-88]

Despite accumulating evidence of risk factor disparities between GSM and heterosexual populations, there is little research connecting these risk factor disparities to intermediate or long-term health outcomes, such as cancer or cardiovascular disease (CVD). For example, apart from research that has found a higher prevalence of virus-linked cancers among men who have sex with men,[89] little is known about cancer incidence or mortality among GSM populations because sexual orientation or gender identity information is not routinely captured in cancer registries. This lack of surveillance data is particularly problematic, as cancer risk factors may cluster in GSM populations. For example, lesbian and bisexual women have higher rates of a number of breast cancer risk factors, including increased alcohol use, higher rates of smoking, obesity, and nulliparity, and may receive breast cancer screening less frequently than heterosexual women (though the evidence regarding cancer screening behaviors among LBW is conflicting).[90-92] Sexual minority women have also been found to have a higher Framingham general CVD risk score than straight women, indicating that they may be at greater risk of developing cardiovascular disease.[93]

Thomas et al. delineated four phases of disparities research: 1) documenting the disparities, 2) exploring rationales for the disparities, 3) providing evidence for solutions, and 4) moving towards structural, multi-level interventions.[7] GSM health disparities research is largely still in the first generation, as it is difficult to document the disparities without data from national health surveys and registries on sexual orientation and gender identity.[62] This review uses the limited second generation evidence for the causes of health disparities in GSM populations to discuss the interventions designed to address these barriers in the formal healthcare system. As the disparities in various GSM subgroups become more well-defined, barriers can also be identified with more precision, and interventions more tailored to root causes.

Cultural Competence

Cultural competence has been widely promoted as one approach to reduce health disparities. Since cultural competence remains variously defined and operationalized, it has become a blanket term to describe a broad range of system- or provider-level interventions. Specific recommendations to create culturally competent healthcare for LGBT people include: educating staff on specific health disparities experienced by the GSM communities and how to take an appropriate sexual and social history, using gender-neutral language on forms and communication, refraining from making assumptions about a person's sexual orientation or gender identity by asking directly about identity and sexual behavior, displaying GSM-friendly symbols, and registering with the Gay and Lesbian Medical Association's online directory.[94,95]

For many physicians, like many people in society, examining strongly held beliefs and biases may be a necessary first step to creating a welcoming environment for LGBT patients. Inclusive and nondiscriminatory policies can support the work of cultural competence. However, political interventions are beyond the scope of this review.

Scope and Key Questions

Scope of the Review

This review examines the evidence for cultural competence interventions at the system- and provider-level designed to address known or suspected health disparities among LGBT persons. As such, the review does not address policy-level evaluations. Clarity in discriminating between interventions within the scope of cultural competence versus those outside is important, but challenging. This review's main focus is on whether cultural competency interventions change the clinicians' behaviors (such as communication and clinical decision-making), the patient-provider relationship, and/or clinical systems to result in better outcomes for the patient.

We focus on interventions within the formal health system rather than on public health outreach programs, public health clinics, and infectious disease focused practices. Public health clinics and other parallel systems that are outside of "main stream" have historically provided much of the care to the MSM population, particularly gay men with human immunodeficiency virus (HIV). However, the average provider may not be adequately prepared to address the specific needs of this population.

Within the clinical context, interventions aimed at improving care for all patients (such as patient-centered care, health literacy) were excluded unless the intervention is specifically adapted to people from the GSM communities. Similarly, interventions aimed at changing a patient's behavior for health reasons (such as sexual risk behaviors) are not in scope unless the intervention is specifically addressing a cultural competence component. The primary outcomes of interest were reductions in disparities between populations for a given health outcome measure.

Key Questions

KQ: What is the effectiveness of interventions to improve culturally appropriate health care for GSM adolescents (ages 13-17), young adult (18-25), and adults?

PICOTS

Table 9 provides the populations, interventions, comparators, outcomes, timing, and settings (PICOTS) of interest. The analytic frameworks can be found in Chapter 1 and Appendix A.

Table 9. Review PICOTS—gender and sexual minority populations

PICOT	
Population	GSM adolescents (ages 13-17), young adults (ages 18-25) and adults Overall gender disparities experienced by women (in relationship to men) were not considered in this review. Biological sexual development and disorders of sexual development are not part of this review.
Intervention	Cultural competence/culturally appropriate care provider education and training Cultural competence/culturally appropriate care clinic-based interventions targeted to patients Cultural competence/culturally appropriate care clinic-based interventions targeted to

	providers
Comparator groups	Usual care Head-to-head trials of different strategies

Outcomes	Intermediate outcomes
	  • Provider training and motivation outcomes (competencies, knowledge, changes in attitudes)
	  • Provider behavior, such as clinical decisionmaking, communication
	  • Provider beliefs/cognitions about the priority population, reducing stereotyping, stigmatization
	  • Improved access to health services
	  • Utilization of health services
	  • Patient experience/satisfaction
	Final health or patient-centered outcomes – reduced disparities in terms of
	  • Patient medical care outcomes
	  • Patient mental health care outcomes (depression, substance use)
	  • Patient health behaviors
	  • Use of preventive services and other access to care measures
	Adverse effects of intervention(s)
	  • Unintended negative consequences of intervention

Timing	Variable – depends on the purpose of the intervention
Setting	Inpatient, outpatient, and community settings in which patients from priority populations are interacting with healthcare providers.

Methods

This review followed the methods suggested in the ARHQ Methods Guide for Effectiveness and Comparative Effectiveness Reviews (available at http://www.effectivehealthcare.ahrq.gov/methodsguide.cfm); certain methods map to the PRISMA checklist.[11] We recruited a technical expert panel to provide high-level content and methodological expertise feedback on the review protocol. The protocol was posted on July 8, 2014 at http://effectivehealthcare.ahrq.gov/search-for-guides-reviews-and-reports/?pageaction=displayproduct&productid=1934. This section summarizes the methods used.

Literature Search Strategy

We searched Ovid MEDLINE®, PsychInfo, and Cochrane EPOC from 1990, when the concept of cultural competence gained traction, to October 2014. As the concept of cultural competence interventions in the GSM communities is not well defined, and the literature set was relatively small, all intervention studies for the population of interest were reviewed for inclusion (no cultural competence intervention filter was used). Searches and screening were performed iteratively to identify concept boundaries and tighten the working definitions and eligibility criteria. The final search algorithms are provided in Appendix B. We also manually searched reference lists from systematic reviews and employed back and forward searching of key articles recommended by experts.

Study Selection

We reviewed bibliographic database search results for randomized controlled trials (RCTs) systematic reviews, nonrandomized controlled trials, before and after case reports with comparators, and interrupted time series studies published in English language relevant to our PICOTS framework. All studies identified at title and abstract as relevant by either of two

independent investigator underwent full-text screening. Two investigators independently performed full-text screening to determine if inclusion criteria were met.

Eligible studies tested an intervention to provide culturally appropriate health care to GSM adolescents, young adults, and adults.

Interventions that targeted providers, formal healthcare systems, or the ability of the patient to communicate or interact with the provider or formal healthcare system in support of culturally competent care were eligible. Such interventions could include remote (such as web- or phone-based) interventions to provide access to care in a manner sensitive to the needs of the GSM population. Studies that tailored interventions to individuals (patient-centered) rather than the community (cultural competence) were excluded. Interventions that were merely disease-driven (such as HIV) rather than population-driven were not included. We also relaxed the exclusion of matching providers to patient populations for the GSM literature because the literature was so sparse.

Eligible settings were U.S. inpatient, outpatient, and community settings in which patients are interacting with healthcare providers. Interventions must have been sponsored by, or engaged with, a formal healthcare system in order to address disparities. Advocacy alone without active engagement with a healthcare system were excluded.

The majority of the literature is focused on HIV/AIDS and behavioral interventions to reduce sexual risk-taking. Due to the lack of connection with mainstream health systems, this literature does not rise to our working definition of cultural competence. However, many GSM people continue to receive care at such centers, and some centers have expanded to provide more full service. A 2013 systematic review identified 33 U.S.-based RCTs of behavioral interventions to reduce HIV transmission and infection that were specifically designed for the MSM population.[96] Nine studies were deemed by the authors to meet the Center for Disease Control and Prevention's Prevention Research Synthesis criteria and thus evidence-based.[97-104] Only one of these studies is included in this review.[103] The other eight studies did not meet inclusion criteria. Two trials published after the review appeared in our search and would likely meet the inclusion and efficacy criteria established by the authors.[105,106] These two studies tailored their interventions to an important, subpopulation: African American MSM. Table 10 briefly describes the eight studies deemed efficacious in the 2013 review that were excluded from this review, and the two similarly excluded articles that appeared in our search but were published after the 2013 review.

Table 10. Methodologically strong examples of MSM tailored sexual behavioral interventions excluded from review

Study	Intervention	Setting
Kegeles, 1996[97]	A community-level intervention that involved outreach, peer led small groups, and a publicity campaign.	Researchers from the Center of Aids Prevention Studies, UCSF using AIDS community based organizations to conduct research.
Kelly, 1992[98]	Opinion leaders, as identified by bartenders, were trained as "risk reduction endorsers." The opinion leaders each contracted to have 14 conversations with peers and wear a button to further generate discussion in the bar.	University based researchers.
Dilley, 2002[99]	Multi-armed trial. Sexual health diary, self-justification questionnaires, and enhanced counseling arms compared to standard counseling.	Researchers from the UCSF AIDS Health Project conducting research in an anonymous HIV testing clinic.
Dilley, 2007[107]	Similar intervention to Dilley, 2002. Self-justification questionnaire followed by brief personalized cognitive counseling delivered by a paraprofessional.	Researchers from the UCSF AIDS Health Project conducting research in an anonymous HIV testing clinic.
Koblin, 2004[100]	Multi-city intervention consisted of 10 one on one	Participating institutions in 6 major US

Study	Intervention	Setting
	counseling sessions with 3 month maintenance sessions delivered by counselors with 40 hours of specialized training.	cities: Boston, Chicago, Denver, New York, San Francisco, and Seattle.
Wolitski, 2005[101]	A peer-led, 6 session intervention utilizing various modalities to increase knowledge and change personal and social norms around HIV transmission.	Lead researcher from the CDC, the UCSF Center for AIDS Prevention Studies and the Center for HIV/AIDS Educational Studies and Training (CHEST) were also involved
Choi, 1996[102]	A 3-hour intervention aimed at fostering positive self-identity, increasing knowledge of safer sex, and developing skills to eroticize and negotiate safer sex. The intervention was facilitated by one "highly trained" coordinator and one community volunteer with 3 hours of training.	Sessions were conducted at Living Well Project, a community based agency serving gay men in San Francisco.
Wilton, 2009[104]	The intervention was a weekend retreat (half day Friday, all day Saturday and Sunday) in upstate New York where trained black MSM delivered six, 2-3 hour sessions following a pre-established curricula (3MV) addressing behavioral and social determinants that affect HIV/STI risk and protective behaviors.	Two community based organizations serving black MSM in New York: Men of Color Health Awareness in New York and People of Color in Crisis partnered with the Center for Health and Behavioral Training at the University to develop a culturally tailored behavioral intervention for Black MSM.
Tobin, 2013[105]	A six session intervention, facilitated by African American men, focused on understanding stereotypes and stigma, knowledge acquisition, practicing safer sex skills through role playing, and relapse prevention.	Research clinic within Johns Hopkins Bloomberg School of Public Health
Harawa, 2013[106]	The 6 small-group sessions of The Men of African American Legacy Empowering Self (MAALES) intervention, delivered by African American men, aimed to decrease frequency of unprotected intercourse and number of intercourse partners and reduce sex while under the influence of drugs.	Researchers from UCLA conducting research in three community based agencies.

Trials in Table 10 used techniques to approach the MSM community that are similar to our included studies, such as having the intervention delivered by individuals who shared the characteristics of the target population or tailoring educational materials to experiences or misconceptions common to the target population. However, these studies differ from the included studies in two important ways: 1) the interventions primarily focus on changing the behavior of the population, without changing the system or the providers in any meaningful way and 2) The studies are generally conducted in a specialized system of care, comprised of public health/HIV clinics and community agencies. If MSM receive sexual healthcare exclusively from public health clinics, community groups, or university-based research teams, primary care physicians are not prompted to become more aware of sexual health disparities experienced by members of the MSM populations and how to have conversations to address these concerns. Interventions that were tested in the specialized healthcare system but target both patient and provider behavior in a manner that is likely transferable to the larger healthcare system are included in this review. Many of these interventions, as a result of continued stigma, occurred outside the formal system and often took the form of community-level public health interventions. Due to the lack of connection with mainstream health systems, this literature does not rise to our working definition of cultural competence. However, since many GSM people continue to receive care at such centers, and since some centers have expanded to provide more full service, the literature is briefly reviewed here.

We also expanded the criteria to include studies from other developed countries that tested interventions that could possibly transfer to U.S. healthcare.

Initial search results were vetted by the full team. Differences of opinion regarding eligibility were resolved through consensus adjudication.

Data Extraction, Synthesis, and Presentation

We evaluated the risk of bias in included studies according to study design using criteria from the Cochrane risk-of-bias tool in interventional studies (Appendix D). Given the paucity of literature identified, the heterogeneity of the study populations and interventions, small study samples, the lack of details for complex interventions and comparators, and the high risk of bias assessment for most of the included studies, we determined the strength of evidence for cultural competence interventions, in general, to be insufficient and thus we were unable to draw meaningful conclusions from the literature. Therefore we focused on summarizing the results into evidence tables and conducted a qualitative synthesis, grouping synthesis results using emergent patterns from identified interventions, and evaluating the challenges of the literature the present barriers to forming inferences from study results. One investigator abstracted the relevant data from eligible trials directly into evidence tables. A second investigator reviewed evidence tables and verified them for accuracy.

Results

Literature Search Results

We identified 4,751 unique English language citations (Figure 5) from 1990 to October 2014. After excluding articles at title and abstract, full texts of 85 articles were reviewed to determine final inclusion. Appendix C lists the 74 articles excluded after full text review.

Figure 5. Literature flow diagram—gender and sexual minority populations

Initial references = 8,742	
	Excluded duplicates and non-English = 3,991
Unique references = 4,751	
	Excluded at title and abstract screen = 4,666
Full text review = 85	
	Excluded at full text review No formal system / health promotion = 31 Design / descriptive = 24 Documents attitudes or disparities = 9 HIV focused / not tailored to population = 6 Individualized / patient-centered care = 4
Included = 12	Handsearched articles = 1

The 11 included studies (12 manuscripts) were not easily combined; they fell into five categories: interventions aimed at prompting patients to interact with the formal healthcare system for screening or testing (n=2); a clinic-based mental health and substance use intervention tailored to a GSM population (n=1); a psychosocial intervention for a GSM population with cancer (n=1), interventions aimed at behavioral risk reduction that involve formal healthcare providers (n=4), and interventions testing medical training curricula (n=3). Studies were generally high risk of bias (Appendix D). Since the risk of bias and heterogeneity of the studies precluded any strength of evidence other than insufficient, we describe the studies by emergent patterns.

Table 11 describes the included studies by intervention type and GSM population. four included studies focused on men who have sex with men,[103,108-112] two studies focused on gay and bisexual men,[111,112] two focused on lesbian and/or bisexual women,[113-115] and the three educational interventions focused more broadly on the GSM population as a whole.[95,116,117] No studies specifically addressing the provision of culturally competent services for transgender people were identified.

Four approaches to cultural competence were observed: three included studies used a person to deliver the intervention that was also a member of the GSM population;[103,113,114] two used a combination of provider training and prompts for the provider and patient during the clinical encounter;[108,109] three studies focused solely on provider education;[95,116,117] and three tailored an existing intervention to better reflect the target population.[110-112,115] Included study sample sizes ranged from 20 to 1,396. Less than half of included studies (5/11) were randomized trials.[103,110-112,114,115] Only one included study (two manuscripts) used an attention control.[111,112]

Table 11. Summary of included GSM population studies

Type of Cultural Competence Interventions	Number of studies	MSM	WSW	Lesbian women	Lesbian and bisexual women	Gay and bisexual men	GSM
Interventions aimed at prompting patients to interact with the formal healthcare system for screening or testing	2	Blas et al., 2010[110]	NF	NF	Bowen, et al., 2006[114]	NF	NF
Clinic-based Mental Health and Substance Use Interventions Tailored to a GSM Population	1 (2 Manuscripts)	NF	NF	NF	NF	Peck et al., 2005[111] Shoptaw et al., 2005[112]	NF
Interventions Aimed at Behavioral Risk Reduction That Involve Formal Healthcare Providers	4	Bachmann et al., 2013[108] McKirnan et al., 2010[103] Patel et al., 2012[109]	Marrazzo et al., 2011[115]	NF	NF	NF	NF
Interventions Testing Medical Training Curricula	3	NF	NF	NF	NF	NF	Beagan, 2003[116] Kelley et al., 2008[117] McGarry et al., 2002[95]
Psychosocial intervention for a GSM population with cancer	1	NF	NF	Fobair 2002[113]	NF	NF	NF

NF=not found

Interventions Aimed at Prompting GSM Patients to Interact With the Formal Healthcare System for Screening or Testing

Table 12 summarizes the two studies in this category. One study was designed to address screening disparities as a potential modifiable pathway to early detection of breast cancer.[114] The RCT examined counseling to improve breast self-exam and mammography among women who self-identified as lesbian or bisexual.[114] The cultural competence approach used in this study was patient/provider sexual identity concordance; a key element of the program was making it clear to participants that all scientists, staff, and counselors involved in the studies were sexual minority women.[114] The authors reported significant increases in self-breast examination and mammography, and significant decreases in perceived risk, cancer worry and mental health that were sustained over time compared to a waitlist/ delayed control.[114] However, the study did not include an arm that compared the effectiveness of the counseling program delivered by providers who were not explicitly identified as sexual minority women. One of the more interesting findings of the trial is the differential effectiveness of the intervention by degree of "outness." Among women in the intervention arm, after controlling for income, education, age, and sexual identity, women whose sexual orientation was known to coworkers and family members were three times more likely to have screening mammography.

Blas et al. tested the effect of an online intervention to encourage men who have sex with men to get tested for HIV on visiting the clinic for HIV testing.[110] One hundred forty-two gay-identified men were randomized to the video-based intervention group and 130 to the text-based control intervention. Ninety-seven non-gay identified men (men who have sex with men but do not consider themselves to be gay) were randomly assigned to the video-based intervention and 90 to the text-based control intervention.[110] Even though this study was conducted outside of the United States (Lima, Peru), it is included because it prompts interaction with the healthcare system (going to the clinic to get tested) and targets an underserved segment of the GSM population, men who have sex with men but do not identify as gay; the intervention itself is tailored to match the behavior and identity of the participant (non-gay or gay).[110] The 5-minute videos use the health belief model to transition through the stages of change and incorporated common reasons why MSM do not get tested.[110] Among the gay identified population, the intervention had no effect on intention to test (30 days or next 6 months), appointment making, or actual clinic attendance. However, among heterosexual-identified MSM, the video intervention significantly increased intention to test over the next 30 days and actual attendance at clinic.[110] These two studies highlight the importance of considering the multiple dimensions of sexual orientation (i.e., identity, attraction, behavior) when designing and tailoring interventions.

Table 12. Interventions aimed at increasing interaction with the formal system

Study, Design, Setting	Aim	Sample Size, Population	Intervention, Comparators	Reported General Findings
Blas, 2010[110] RCT Peru	To test the effect of 5 minute videos customized based on self-identification as non-gay, gay, or trans on HIV testing.	808 gay-identified and 588 non-gay adult MSM who had not been tested for HIV during the last year and were not HIV positive.	Customized (non-gay, gay, trans) 5 minute vs. public health text, both through a gay website	The video was not more effective than text among the gay identified population on intention to get tested (30 days or 6 months), making an appointment online, or HIV testing. However, among the non-gay identified population, the video was more effective than text on intention to get tested (30 days) and HIV testing.
Bowen, 2006[114] RCT Seattle, WA	To test the effectiveness of a group counseling and educational program on breast and mammography screening.	150 lesbian and bisexual women aged 18-74 with no history of breast or ovarian cancer	Four weekly 2-hour small group sessions led by a trained sexual minority woman health counselor versus a wait list control. Session themes included risk assessment, breast cancer screening, stress management and social support.	Significant increases in self-breast exam and mammography up to 24 months post-intervention and significant decreases in perceived risk, cancer worry, depression and anxiety. The intervention was more effective for women who were more "out."

MSM=men who have sex with men; RCT=randomized controlled trial

Clinic-based Mental Health and Substance Use Interventions Tailored to a GSM Population

Increases in substance use and depression have been observed across the GSM age continuum.[118-120] However, we only identified one RCT tailoring a therapy or drug intervention to a GSM population.[111,112] Self-identified gay and bisexual men (n=263) seeking outpatient behavioral drug abuse treatment for methamphetamine dependence, with a Structured Clinical Interview-verified diagnosed methamphetamine dependence, began a 2-week baseline period

that took a similar format to the actual intervention (attendance three times per week, urine sample collection, and group therapy).[112] After this 2-week baseline period, 162 participants who had attended at least two of the four cognitive behavioral groups during baseline were randomized to one of four study conditions 3 times a week for 16 weeks: cognitive behavioral therapy (CBT) sessions, contingency management (CM), CBT and CM, or "gay-specific" CBT sessions.[111,112] The comparator, CBT, focused on teaching patients skills to achieve, maintain, and recover abstinence after relapse, including healthier coping strategies, recognition of triggers and cravings management, and stages of recovery.[111,112] Gay-specific CBT included the skills taught in the basic CBT with "referents to cultural norms and values of urban GBM [gay and bisexual men] and providers' emphasis on reduction of HIV-related sexual behaviors." (p. 126).[111] Gay-specific CBT was not differentially effective on treatment retention, number of days of methamphetamine abstinence, or depression outcomes when compared to standard CBT.[111,112] The gay-specific CBT condition significantly reduced unprotected receptive anal intercourse compared to standard CBT arm; however, those gains were not maintained over time.[112]

Interventions Aimed at Behavioral Risk Reduction That Involve Formal Healthcare Providers

We identified four studies for behavioral risk reduction interventions in the GSM population that involved healthcare providers and were judged to be transferable to the nonspecialized healthcare system: three studies specific to men who have sex with men (MSM), and one specific to women who have sex with women (WSW). No studies were identified that were specific to transgender people. Table 13 provides a summary of the studies.

Table 13. Interventions aimed at behavioral risk reduction

Study, Design, Setting	Aim	Sample Size, Population	Intervention, Comparators	Reported General Findings
Bachmann, 2013[108] Longitudinal Primary care, university-based HIV clinic	To test the effect of computer-assisted (tailored per behavioral assessment), provider-delivered interventions on sexual risk behaviors.	234 MSM	Computer-assisted, provider-delivered interventions during routine primary care visits over 3 years vs. assessments prior to intervention; staff received 5 hours of training on change models and sexual risk assessment.	Significantly reduced the number of unprotected insertive oral and anal intercourse acts and number of sexual partners, but not number of unprotected receptive anal sex acts or HIV disclosure.
Patel, 2012[109] Prospective cohort, pre-post 7 specialty clinics in 4 cities	To test the effect of computer-assisted, provider-delivered interventions on sexual behaviors and sexually transmitted infections (STIs).	216 HIV-infected MSM treated with highly active antiretroviral treatment (HAART)	Computer-assisted, provider-delivered interventions over two years vs. preintervention visit; staff received 5 hours of training	STI incidence decreased and unprotected intercourse with HIV-positive partners increased but did not change with HIV-negative partners or partners of unknown status; no effect on disclosure of HIV-positive status.
McKirnan, 2010[103] RCT 3 primary care clinics (gay/lesbian health center,	To test the effect of individual counseling sessions on sexual behaviors.	317 HIV-positive, MSM.	4 60-90 minute individual counseling sessions, 3-month call, 6- and 12-month followup sessions delivered by ethnically diverse, HIV-positive members of the MSM	Transmission risk (unprotected sex with HIV-negative partners or partners of unknown status) decreased at 6 and 12 months; overall unprotected sex (with

Study, Design, Setting	Aim	Sample Size, Population	Intervention, Comparators	Reported General Findings
public clinic, private medical center), Chicago			communityvs.vs. usual primary care	partners of any HIV status) decreased at 6 months but was not sustained at 12 months
Marrazzo, 2011[115] RCT University-based clinic	To test the effect of individual counseling on persistent or recurrent bacterial vaginsosis.	89 WSW aged 16-35 with bacterial vaginosis	Vaginal metronidazole (both groups) plus individual education to reduce misconceptions regarding bacterial vaginosis vs. usual care (general STI education)	Increased glove use during digital-vaginal sex at one-month followup, but no effect on persistent or recurrent bacterial vaginosis based on survival curve analysis

MSM=men who have sex with men; RCT=randomized controlled trial; WSW= women who have sex with women

Two prospective cohort studies without comparators were included because they represent strong examples of sexual health cultural competence interventions. In the Providers Advocating for Sexual Health Initiative (PASHIN), all primary care providers received a 5-hour training that emphasized enhancement of provider communication skills around sexual risk assessment and behavior change.[108] Similarly, the CDC-funded Partnership for Health intervention (part of the Study to Understand the Natural History of HIV/AIDS in the Era of Effective Therapy [SUN]) trained providers to conduct brief risk-reduction counseling during the clinical encounter. All clinic staff (including support staff) attended a 4-hour training that included lecture, videos, small group activities, and patient-provider simulations before study initiation, and a one month post-intervention booster session.[109] Pocket guides and videos also were used to support provider education.[109]

In the PASHIN study, participants completed a computerized assessment that generated a tailored, theory-based advice sheet with prioritized objectives for providers to use during the routine clinical encounters that occurred approximately every 3 months.[108] The intervention also included a prescription to recap the providers' intervention messages that was given to each patient to take home.[108] For SUN, patients received prevention messages in written form and then had the messages reinforced by providers.[109]

The RCT differed from the PASHIN and SUN studies because the counseling, scheduled around a routine primary care visit, was delivered by ethnically diverse, HIV positive members of the MSM community supervised by a clinical psychologist.[103] Treatment advocates received 40 hours of training on specific CBT techniques and motivational interviewing. Weekly supervision with doctoral- and masters-level licensed therapists, as well as recorded session audits, allowed for over 85 percent compliance with program protocol.[103] During the four-session intervention, a computer was used for the advocate and patient to complete each prescribed module and create a behavioral plan.[103]

Both prospective cohort studies reported to significantly reduce most unprotected sexual behaviors, but not HIV disclosure.[108] PASHIN also found reductions in STI incidence.[109] However, in addition to the lack of comparators, half the invited patients declined to participate, and 40 percent of enrolled patients in PASHIN did not receive all five provider-delivered interventions. The RCT intervention was effective in the short-term, but significant reductions in unprotected anal intercourse and transmission risk were not sustained at 12 months.[103] More rigorous evaluation is needed to evaluate the effectiveness of these components used individually and in combination.

One study addressed secondary prevention among WSW diagnosed with bacterial vaginosis (BV). Using focus groups, an informational intervention was developed to target misconceptions

held by WSW, such as "women can't get STDs by having sex with other women," or "women who have sex with women don't need pelvic exams."[115] This randomized trial was part of a larger, clinic based study of BV treatment failure among women who have sex with women.[115] In addition to addressing patient-specific misconceptions, the intervention targeted the use of gloves during digital vaginal sex, condom use for insertive toys, and use of water-based lubricant (gloves, condoms, and lubricant provided to intervention arm).[115] Participants in the intervention arm were significantly more likely to use gloves during digital-vaginal sex; there were no differences in frequency of other target behaviors including receptive digital-anal sex, sharing sex toys without cleaning them, and vaginal intercourse with men without condom use.[115] The intervention also had no effect on persistent or recurrent BV.[115]

Interventions Testing Medical Training Curricula

Three provider training programs and curricula have been developed for providing care to GSM populations,[95,116,117] but none have been rigorously evaluated. Two programs were short: a 2-hour program for second-year medical students[117] and a 3-hour seminar for post graduate year residents. One program ran 2 years as part of a medical curriculum.[116] The short programs used pre-/post-test designs while the undergraduate curriculum used the previous class cohort as a historical control. Table 14 gives summaries of the studies.

Table 14. Summary of provider training

Study, Design, Setting	Aim	Sample Size, Population	Intervention	Reported General Findings
Kelly, 2008[117] Pre-post University of California at San Francisco	To evaluate the effect of a short seminar on second year medical students' knowledge and attitudes toward treating members of the LGBT community.	75 second year medical students	A 2-hour seminar: LGBT patient panel and a scenario-based small group exercise led by faculty and physician members of the LGBT community	Improved (4/16 survey items) knowledge, attitudes immediately following the intervention.
McGarry, 2002[95] Pre-post Rhode Island Hospital, Brown University	To evaluate the effect of a short seminar on MD residents' preparedness and comfort with dealing with psychosocial and sexual issues of members of the LGBT community	37 general internal medicine residents	A 3-hour seminar: video, lecture, and case study on health care needs and barriers among LGBT people and physician attitudes	Increased self-reported preparedness to address LGBT health care issues; no significant change in mean provider comfort with gay men or lesbians, although 9/11 residents who were uncomfortable at pre-test improved.
Beagan, 2003[116] Prospective cohort, historical control Canada	To evaluate a course offered during the first and second years of the undergraduate medical curriculum	132 third-year medical students: 61 class cohort 71 historical control	Weekly seminars on social issues in medicine and socio-cultural differences, including gender, sexual orientation, race, and socio-economic status, affect the practice of medicine.	No significant differences in medical students' beliefs about how patient factors or their own backgrounds affect the care they provide.

After the 2-hour seminar, four of the 16 items were significantly changed by the intervention (largest absolute change .57 on a 5-point scale).[117] Students more strongly disagreed with the following three statements after the intervention: "Access to health care is the same for LGBT people as for other members of the population;" "LGBT people are less likely than heterosexual

people to be in long-term monogamous relationships;" and "I would prefer not to treat patients with gender identity issues."(p.251)[117] Students more strongly agreed with the following statement after the intervention: "As a physician, I feel it is important for me to know about my patients' sexual orientation, sexual practices, and gender identity."(p.251)[117] This study had several methodological weaknesses, including absence of a control population, low response rate among eligible participants (52 percent), high baseline familiarity with LGBT population, and no measure of effect of intervention over time.[117]

In another study, after attending the 3-hour seminar, residents felt more prepared to deal with lesbian and gay health care issues (absolute change .47 on a 5-point scale).[95] Mean changes in comfort summary scores were not significantly changed by the intervention, but trended in the direction of more comfort.[95] Limitations of this study include the lack of a control group, small study population, unclear instruments, absence of measurement of effects over time, and high baseline reported comfort and knowledge of population.[95] It is not clear, however, whether either of these trainings actually produce changes in attitudes or merely elicit the socially desirable response from physicians, immediately post-training.

The 2-year intervention had no effect on medical students' beliefs; students who received the intervention were as or more likely to believe social factors, including class, race, culture, religion, gender or sexual orientation, did not affect their education or practice.[116] Limitations of this study include response rates of 50-60 percent of eligible population participated and an unclear test of statistical significance on individual characteristics.

Psychosocial Interventions

One study conducted a pre-post test of the effect of Supportive-Expressive group therapy on distress, anxiety and depression, self-efficacy, social support, physician satisfaction, and quality of life among 20 lesbian women who were recently diagnosed with primary breast cancer.[113] Outcome information was collected on all participants at baseline, 3, and 6 months; outcomes were collected for 17 of 20 participants at 12 months.[113] Participants met in groups of four or more, 12 times, for 90 minutes each session with 95 percent attendance at sessions.[113] Groups were led by lesbian clinical social workers; no other changes to the Supportive-Expressive therapy protocol were made.[113] The intervention reduced tension, pain, and anxiety, while improving mood self-efficacy, and sleep. However, the intervention appeared to have a negative effect on perceived social support and no effect on patients' rating of physicians or body image.[113] The ability to interpret these findings is limited by the absence of a control group.

Discussion

Overview

Our main finding is that the evidence on which to base culturally competent GSM health care does not (yet) exist. Disparities in the GSM population are not well documented,[62] and research testing interventions to reduce health disparities is even rarer. Over 4,000 articles were reviewed in the preparation of this manuscript, resulting in 11 included studies, only five of which were RCTs.

Four approaches to cultural competence were observed: 3 included studies used a person to deliver the intervention that was also a member of the GSM population;[103,113,114] two used a combination of provider training and prompts for the provider and patient during the clinical

encounter;[108,109] three studies focused solely on provider education;[95,116,117] and three tailored an existing intervention to better reflect the target population.[110-112,115] Included study sizes ranged from 20 to 1,396. Less than half of included studies (5/11) were randomized controlled trials (RCTs).[103,110-112,114,115] Only one included study (2 manuscripts) used an attention control.[111,112]

While research on men who have sex with men remains under-resourced relative to HIV/AIDS disease burden,[121] a significant body of research has addressed how to deliver HIV prevention for this population using cultural competence approaches. This shows that the next step of conducting rigorous research addressing GSM health disparities can be successfully undertaken if resources are made available.

This literature highlights the predominance of a parallel health care system for people with HIV/AIDS that grew out of mainstream fear at the height of the epidemic. AIDS service organizations (ASOs) in major urban areas (e.g. San Francisco AIDS Foundation, AIDS Project Los Angeles, and the New York Gay Men's Health Crisis), as well as smaller community health centers throughout the country, provided medical and psychosocial care to gay, bisexual, and other MSM.[62] These centers became affiliated with universities and received funding from multiple sources, including the government. In the subsequent decades, with the advent of life changing drugs (highly active antiretroviral therapy, or HAART), these centers continue to provide care and comprehensive services for people with HIV/AIDS, particularly newly diagnosed men of color who have sex with men. However, the infrastructure developed as a result of the AIDS epidemic is now also used to deliver a host of other services to members of the GSM community (see Fenway Health, fenwayhealth.org). This parallel healthcare system may inadvertently mask the need for cultural competence in the mainstream or nonspecialized healthcare system. Although many of the ideas for treating the GSM population will likely come from the well-developed specialty care, using a segregated or supplementary system of care should be a patient-elected decision, not one driven either by stigma or the mainstream systems' lack of skill. The past 5 years have seen significant attempts to end "AIDS exceptionalism," by mainstreaming HIV care from ASOs into the healthcare system.

The healthcare system plays a key role in eliminating health disparities between populations. However, the 2011 IOM report found that "LGBT individuals face barriers to equitable health care that can have a profound impact on their overall well-being" (p. 297).[62] GSM patients report having to teach providers about their healthcare-related needs, experiencing provider discrimination, receiving inappropriate care recommendations, and even being denied care.[122-124] Past experiences and/or fear of such treatment reduces the likelihood that GSM patients will disclose their sexual orientation or gender identity to providers.[125,126] Disclosure in a health care encounter is associated with receiving more appropriate health services and better doctor-patient communication.[127-129]

Interventions aimed at changing the knowledge and attitudes of providers are a hallmark of cultural competence in other populations (although their effectiveness is not clear),[130] but most providers have little to no training in LGBT health.[131,132] Some protocols and recommendations have been published.[133-136] However, many physicians are not familiar with existing recommendations, hold misconceptions, and about GSM patients, hold explicit and implicit biases against GSM people, and are hesitant to inquire about support systems. In addition, many are uncomfortable managing sexually transmitted infections (STIs) in GSM populations.[137,138] Training programs and curricula have been developed to overcome some of these barriers in knowledge, attitude and skill,[95,117] but none have been rigorously evaluated. The Fenway Institute is one of the sources of provider GSM health education and training.[139] The American

Association of Medical Colleges (AAMC) has also recently published a guideline including GSM based competencies for medical education curricula.[72]

Research Directions

Research into other areas of health across the GSM population remains extremely thin.[62] As a result, health professionals may over-identifying GSM populations with one disease (HIV/AIDS). Simultaneously, they may under appreciate or ignore the high rates of physical, mental, chemical, other sexual and relational health challenges facing GSM patients and communities. Until this disparity is addressed, challenges such as the high rate of suicide in GSM adolescents may continue to be largely ignored in the health system. Similarly, the lack of studies in transgender health care may contribute to it being viewed more as a specialty than part of competent comprehensive care.

Likewise, across the GSM population, we observed disparities within the disparity. While there is an emerging body of research on the provision of culturally competent HIV-related services for men who have sex with men, there is a lack of research on culturally competent services for other GSM populations. In particular, more research is necessary on the provision of culturally competent services to sexual minority women, transgender people, and GSM youth as well as on the provision of culturally competent services to gay and bisexual men beyond those related to HIV. Dual and multiple minority status also warrant attention and research. For example, GSM people of color or GSM people with disabilities may face intersecting and potentially synergistic challenges in health disparities and access to culturally competent care. More research is needed into the inter-relationship between health disparities and how multiple minority status influences risk and resiliency.

The empirical evidence has not kept up with the social and political movements that are rapidly changing societal acceptance and insurance access for GSM people. A number of individuals and organizations have made recommendations about how to reduce barriers to care for GSM individuals. Specific recommendations to create a GSM-friendly environment include: educate staff on specific health disparities experienced by the GSM communities and how to take an appropriate sexual and social history, use gender-neutral language on forms and communication, refrain from making assumptions about a person's sexual orientation or gender identity by asking directly about identity and sexual behavior, display GSM-friendly symbols, and register with the Gay and Lesbian Medical Association's online directory.[94,95] Appendix E summarizes some other published recommendations. These suggestions form the basis for future research that assesses the effectiveness of their content.

Limitations

One of the major limitations of this review is the difficulty drawing boundaries between patient-centered care and cultural competence. Individual tailored interventions, such as an individualized cancer risk assessment, were excluded to distinguish cultural competence interventions from a related concept, patient-centered care.[60] Significant trials excluded based on these criteria are Project Enhance and the Healthy Living Project.[140,141] Project Enhance involved an individualized HIV prevention intervention delivered by medical social workers in concert with primary care visits at Fenway Health.[140] A movement toward individualized, patient-centered care is underway. Individually, versus culturally adapted interventions, may prove to be as or more effective. However, this review is focused on cultural tailoring of interventions.

Chapter 4. Race/Ethnic Populations

Introduction

In the late 1970s and 1980s, the concept of cross-cultural medicine emerged from recognition and advocacy surrounding cultural and linguistic barriers to healthcare.[60] In the early 1990s, increased emphasis on healthcare disparities expanded the focus of cultural competency programs and trainings beyond immigrant populations and interpersonal aspects of cross-cultural healthcare. New focal areas included healthcare systems and all racial and ethnic minority populations experiencing healthcare disparities. With the aim of improving access and reducing healthcare disparities,[142] cultural appropriateness was framed as addressing cultural barriers to care and dimensions of provider quality.[143]

This chapter addresses efforts to develop/improve cultural competency (CC) towards people from minority groups defined by race and/or ethnicity. Such groups may encounter difficulties with the health care system because of underlying (often unacknowledged) prejudices among clinicians that cause them to be treated differently. Minorities may not feel welcome. Clinicians may hold beliefs or expectations about such groups that affect their clinical judgments. Clinicians may inadvertently commit social errors that threaten relationships by failing to appreciate the importance of certain customs; for example, the respect for age or the reluctance to discuss certain topics. Conversely, beliefs held by some groups may influence their enthusiasm for certain treatments and their willingness to comply with regimens. They may hold conflicting beliefs about the etiology of diseases or the effectiveness of treatments.

Past systematic reviews have found an association between self-reported racism and illness among people of minority groups.[144,145] Perceptions of discrimination based on race/ethnicity are also associated with worse patient-reported experiences of care.[146] Past reviews have also found evidence of racism by healthcare providers toward minorities, although little is known about the extent of provider racism or how to measure it.[147,148]

In many instances, discrimination against minorities is exacerbated by socioeconomic issues. Minorities are more likely to lack health insurance coverage and they are disproportionately covered by public programs like Medicaid, where reports of insurance-based discrimination (being treated unfairly by health care providers based on enrollment in public insurance or a lack of insurance) are higher.[149-151] Those who report insurance-based discrimination also report restricted and delayed access to care.[152]

Health Disparities

The Institute of Medicine defines healthcare disparities between population groups as the difference in treatment or access not justified by the differences in health status or preferences of the groups.[149] Disparities in health outcomes for minority groups defined by race and/or ethnicity are an enduring challenge within the healthcare system.[153] For example, compared with whites, both African Americans and Latino Americans encounter higher rates of preventable hospitalizations and complications from chronic diseases.[153]

Difficulties in documenting health care disparities include the presence of multiple racial/ethnic subpopulations and ways of defining these subpopulations.[149]

Cultural Competence

Cultural competence has been variously defined and does not have a consensus definition. One of the more commonly used definitions for racial and ethnic cultural competence is: "Cultural and linguistic competence is a set of congruent behaviors, attitudes, and policies that come together in a system, agency, or among professionals that enables effective work in cross-cultural situations. 'Culture' refers to integrated patterns of human behavior that include the language, thoughts, communications, actions, customs, beliefs, values, and institutions of racial, ethnic, religious, or social groups. 'Competence' implies having the capacity to function effectively as an individual and an organization within the context of the cultural beliefs, behaviors, and needs presented by consumers and their communities."[154]

Scope and Key Questions

Scope of the Review

This review examines the evidence for cultural competence interventions at the system and provider level designed to address known or suspected health disparities in people from race/ethnic groups. The review does not address policy-level evaluations. Clarity about which interventions are within the scope of cultural competence versus those outside is important, but challenging. This review's main focus is on whether cultural competency interventions change health care providers' behaviors (such as communication and clinical decision-making), the patient-provider relationship, and/or clinical systems to ultimately result in better outcomes. This review focuses on interventions within the formal health system (such as located at clinic, led by a nurse, or treatment of a specific health condition that could be delivered within the formal healthcare system) rather than on public health outreach programs and other parallel systems outside the formal system. Within the clinical context, interventions aimed at improving care for all patients (such as patient-centered care, collaborative care) were excluded unless the intervention specifically addressed a cultural competence component and was compared to care without that component. Similarly, treatment interventions for health conditions were not in scope unless the intervention was specifically adapted to people from a particular racial/ethnic group and tested against a non-adapted and otherwise comparable intervention. The primary outcomes of interest were reductions in disparities between populations for a given health outcome measure. Since no studies directly evaluated disparities, we focused on health outcomes and other patient-centered outcomes such as patient perceptions of cultural competence.

Key Questions

KQ: What is the effectiveness of interventions to improve culturally appropriate health care for racial/ethnic minority children and adults?

PICOTS

Table 15 provides the populations, interventions, comparators, outcomes, timing, and settings (PICOTS) of interest. The analytic frameworks can be found in Chapter 1 and Appendix A.

Table 15. Review PICOTS—racial/ethnic populations

PICOT	
Population	Racial/ethnic children and adults
Intervention	Cultural competence/culturally appropriate care provider education and training Cultural competence/culturally appropriate care clinic-based interventions targeted to patients Cultural competence/culturally appropriate care clinic-based interventions targeted to providers
Comparator groups	Usual care Head-to-head trials of different strategies
Outcomes	Intermediate outcomes • Provider knowledge, attitudes, and competencies (skills) in providing culturally competent health care • Provider behavior, such as clinical decision-making, communication • Provider beliefs/cognitions about the priority population, reduction in stereotyping, stigmatization • Patient beliefs/cognitions such as improved trust, perceived racism • Improved access to health services • Utilization of health services • Patient experience/satisfaction • Patient health behaviors • Use of preventive services and other access to care measures Final health or patient-centered outcomes – reduced disparities in terms of • Patient medical care outcomes • Patient mental health care outcomes (depression, substance use) Adverse effects of intervention(s) • Unintended negative consequences of intervention
Timing	Variable – depends on the purpose of the intervention
Setting	U.S. inpatient, outpatient, and community settings in which patients from priority populations are interacting with healthcare providers.

Methods

This review followed the methods suggested in the ARHQ Methods Guide for Effectiveness and Comparative Effectiveness Reviews (available at http://www.effectivehealthcare.ahrq.gov/methodsguide.cfm); certain methods map to the PRISMA checklist.[11] We recruited a technical expert panel to provide high-level content and methodological expertise feedback on the review protocol. The protocol was posted on July 8, 2014 at http://effectivehealthcare.ahrq.gov/search-for-guides-reviews-and-reports/?pageaction=displayproduct&productid=1934. This section summarizes the methods used.

Literature Search Strategy

We searched Ovid MEDLINE®, PsychInfo, and Cochrane EPOC from 1990 to October 2014. Keywords and MeSH terms to capture racial, ethnic, and immigrant population, cultural competence, and disparities were used. Searches and screening were performed iteratively to identify concept boundaries and tighten the working definitions and eligibility criteria. The final search algorithms are provided in Appendix B. We also manually searched reference lists from systematic reviews and employed back and forward searching of key articles recommended by experts.

Study Selection

We reviewed bibliographic database search results for RCTs, systematic reviews, nonrandomized controlled trials, before and after case reports with comparators, and interrupted time series studies published in English language relevant to our PICOTS framework. All studies identified at title and abstract as relevant by either of two independent investigators underwent full-text screening. Two investigators independently performed full-text screening to determine if inclusion criteria were met. Initial search results were vetted by the full team, and decision rules, discussed below, to identify studies that met inclusion criteria were established for second and subsequent rounds of screening. The decision rules were designed to capture the distinction between how to make the healthcare system more culturally competent, not whether there is culturally competent care. Differences of opinion regarding eligibility were resolved through consensus adjudication.

Eligible studies tested an intervention to provide culturally appropriate health care to children and adults from race/ethnic minority groups. We excluded interventions in which cultural tailoring was limited to language translation, patient-provider concordance, or culturally-tailored media (e.g., brochures, videos). The intervention had to be designed to improve cultural competence of the health care system. Only translating or adding a multicultural feature to materials was not sufficient. Patient-provider matching alone (based on race/ethnicity) was also not sufficient for inclusion. We excluded studies that examined racial or ethnic patient-provider matching as a sub-analysis of a larger study.[155,156]

We also excluded studies that lacked an appropriate comparator to test the cultural competence component(s) of the intervention. Because cultural competence was initially conceived for race/ethnic populations, we were stricter in our requirement of an appropriate comparator. Thus we excluded studies designed to compare variation in intensity rather than exposure to the cultural competence component(s) (e.g., authors described the comparator as low-dose, low-intensity, or minimal); studies of interventions that were educational or elective in nature that compared a number of classes or visits in the intervention group versus waitlist, media (such as a brochure), one class only, or the control was otherwise not comparable; multisession, multicomponent educational interventions for chronic disease (such as diabetes lifestyle education with some degree of cultural tailoring) versus usual care; and studies otherwise designed without manipulation of cultural competence variables (such as comparing the delivery format of two culturally tailored interventions). A common design is to compare individual or group visits or calls over weeks, months, or years versus usual care (no outreach). This design may be appropriate to test the effectiveness of increased treatment intensity on disease management outcomes, but this type of study does not contribute to the evidence base regarding the effectiveness of cultural competence. At the strongest level, we identified a smaller set of included studies that examined interventions to improve cultural competence with an experimental design.

Eligible settings were U.S. inpatient, outpatient, and community settings in which patients are interacting with healthcare providers.

We first assessed the relevance of systematic reviews that met inclusion criteria. If we determined that certain key questions or comparisons addressed in the previous systematic review were relevant to our review, we assessed the quality of the methodology using modified AMSTAR criteria.[157]

Data Extraction, Synthesis, and Presentation

We evaluated the risk of bias in included studies according to study design using criteria from the Cochrane risk-of-bias tool in interventional studies (Appendix D). Given the paucity of literature identified, the heterogeneity of the study populations and interventions, small study samples, the lack of details for complex interventions and comparators, and the high risk of bias assessment for most of the included studies, we determined the strength of evidence for cultural competence interventions, in general, to be insufficient and thus we were unable to draw meaningful conclusions from the literature. Therefore we focused on summarizing the results into evidence tables and conducted a qualitative synthesis, grouping synthesis results using emergent patterns from identified interventions, and evaluating the challenges of the literature the present barriers to forming inferences from study results. Where we were able to use previously published systematic reviews that evaluated strength of evidence, we report that review's strength of evidence finding. One investigator abstracted the relevant data from eligible trials directly into evidence tables. A second investigator reviewed evidence tables and verified them for accuracy.

Results

Literature Search Results

We identified 16,881 unique English language citations (Figure 6) from 1990 to October 2014. After excluding articles at title and abstract, full texts of 194 articles were reviewed to determine final inclusion. Appendix C lists the 175 articles excluded after full text review. Eighteen articles met eligibility criteria. One systematic review and one overview of systematic reviews addressed provider education.[130,158] We report the strength of evidence assessed by the previously published systematic review of provider training. Six studies examined interventions to improve cultural competence in patient-provider interactions: two randomized trials at the physician level,[159,160] one cluster-randomized trial,[161] one randomized trial at the patient level,[162] and two controlled trials.[163,164] Nine randomized trials and one controlled observational study examined interventions to improve cultural competence/cultural appropriateness of clinical treatment.[165-173] Individual studies were generally high risk of bias (Appendix D). Since the risk of bias and heterogeneity of the studies precluded any strength of evidence other than insufficient, we describe the studies by emergent patterns.

Figure 6. Literature flow diagram—race/ethnic populations

| Initial references | = 16,881 |

→ Excluded duplicates and non-English = 6,323

| Unique references | = 10,558 |

→ Excluded at title and abstract = 10,384

| Full text | = 194 |

→ Excluded at full text
Design issues = 116
Not culturally competent intervention = 22
Not healthcare = 11
Not on topic = 15
Not population = 7
Excluded systematic reviews = 4

← Handsearch included = 2

Included Articles	= 21
Unique Studies	= 16
Systematic reviews	= 2

The two reviews and 16 individual studies fell into three categories: interventions of provider training to improve cultural competence (n=1 overview of systematic reviews); interventions to improve provider/patient contact (n=6); and culturally tailored interventions (n=10).

Patient populations represented in the 16 individual studies included African American, Hispanic/Latino American, and Asian American (East Asian or Korean ethnicity). No studies of the American Indian and Alaska Native (AIAN) population met the inclusion criteria. Among the six studies that examined interventions to improve cultural competence in patient/provider interaction, three studies sampled African American patient populations and three focused on Hispanic/Latino Americans. Of the ten studies that examined culturally tailored interventions for treatment of specific health conditions, three studies included African Americans, two included Asian Americans, and six included Hispanic/Latino Americans, one of which included both African American and Latino men (see Table 16).[174] No studies addressed culturally competent care specifically for children.

Table 16. Cultural Competence intervention type by race/ethnicity and health condition.

Type of Cultural Competence Interventions	Number of studies	African American	Hispanic/Latino American	Asian American
Provider education	2 (1 review of 5 RCTs, 1 review of 19 reviews)	Various	Various	Various
Patient/provider interaction	6	2 medical visits Michalopoulou, 2010[164] Penner, 2013[160] 1 mental health Cooper, 2013[161]	1 cancer screening Aragones, 2010[159] 2 mental health Alegria, 2008[163] Alegria, 2014[162]	NF
Culturally tailored interventions	10	1 diabetes D'Eramo, 2010[168] 1 substance abuse Calsyn, 2013[174] 1 depression Kohn, 2002[170]	1 cancer screening Breitkopf, 2012[165] 1 diabetes and depression Ell, 2011[175] 1 pregnancy Marsiglia, 2010[172] 3 substance abuse Burrow-Sanchez, 2012[166] Calsyn, 2013[174] Lee, 2013[171]	1 phobia Pan, 20111[173] 1 smoking Kim, 2014[169]

NF=not found

Interventions for Provider Education

We identified two high quality systematic reviews that addressed provider education interventions. (See Appendix D for review quality assessment.) A recent Cochrane systematic review by Horvat et al.[130] included 5 RCTs that evaluated the effect of provider training on patient outcomes for culturally and linguistically diverse (CALD) populations and found low-strength evidence that cultural competence training had mixed effects for intermediate outcomes and no effect on treatment outcomes. Table 17 presents the reported findings in detail.

Table 17. RCTs of cultural competence provider training for CALD patients compared with no training in primary care setting in high-income countries

Outcomes	Impact	Number of Participants (Studies)	Reported Quality of the Evidence
Treatment outcomes (Different measures)[1]	No evidence of effect on treatment outcomes in two studies; the proportion who achieved cholesterol control target over 12 months and weight loss over 6 months were assessed.	2767 2 studies (1 international)[5]	Low
Health behaviors	Client concordance with attendance significantly improved for the intervention group across three counselling sessions. Women in intervention group were 1.5 times more likely to attend the third counselling session (RR 1.53, 95% CI 1.03 - 2.27)	28 (1 study)	Low
Involvement in care (Mutual understanding)[2]	One study in the Netherlands reported improved mutual understanding between one in five patients (described as "mainly Turkish, Moroccan, Cape Verdean, and Surinamese patients") and their largely "Western" GPs (mostly Dutch) (SMD 0.21, 95% CI 0.00 - 0.42)	109 1 study (international)[5]	Low
Evaluations of care (Different measures)[3]	Three studies showed mixed outcomes. There was no evidence of effect on evaluations of care between intervention and control group participants in two studies, but a third study showed significant improvements in client perceptions of their health professional after cultural	195 3 studies (2 international)[5]	Low

Outcomes	Impact	Number of Participants (Studies)	Reported Quality of the Evidence
	competence training		
Health professionals knowledge and understanding (Awareness of racial differences)[4]	No evidence of effect on clinician awareness of racial differences in the quality of diabetes care for black clients was found in one study among the proportion of clinicians acknowledging racial disparities in care occurred "very often" or "somewhat often" (RR 1.37, 95% CI 0.97-1.94), with no adjustment for clustering	87 (1 study)	Low
Adverse events	None of the included studies measured adverse outcomes.	0	

Source: Horvat 2014 Cochrane systematic review[130]

CALD=culturally and linguistically diverse; CI=confidence interval; RR=relative risk; SMD=standardized mean difference.
[1] Rate of achieving control target of LDL cholesterol <2.59mmol/L (<100mg/dL) in previous 12 months and change in patient weight (pounds). Data in both studies collected from patient records.
[2] Validated scale to measure mutual understanding by comparing GP and patient assessments of consultation. Responses could range from -1 (total misunderstanding) to +1 (complete mutual understanding). GPs completed the questionnaire immediately after the consultation and patient interviews were conducted 3 to 8 days after a consultation.
[3] Measures include dichotomous measure of Patient satisfaction with consultation, which was measured in patient interviews at home 3-8 days after GP consultation. There were two continuous measures: Patient reported physician cultural competency, which asks patients about 13 physician behaviors using 5-point scale with score transformed to a 0 to 100 scale, a single dimension (attractiveness) from validated scale with 12 7-point bipolar items, Client perception of counselors ('attractiveness').
[4] Clinician awareness of racial differences in care measured with a 5-point Likert scale (very often to very rarely).
[5] Outside of scope of main review due to limited generalizability.

The second review was a recent overview of systematic reviews by Truong et al. that included 19 individual reviews.[158] We synthesized the provider training results of studies included by Truong et al. in relation to Horvat et al. (see Appendix Table D3). (Since many of the studies in the reviews included by Truong et al. were not limited to provider training, we also screened these studies for possible inclusion based the criteria of this review.) We cross-walked the included sets of studies and treated additional studies identified in the Truong et al. overview as a sensitivity analysis of the Horvat et al. results.[130]

Of the 19 systematic reviews included by Truong et al., 6 focused on patients onlyand 13 had provider training within the review scope, with 5/13 reporting additional observational data on provider training outcomes broadly within the scope of Horvat et al. and our review.[176-180] Other topics explored by the reviewed literature include provider training specific to Australia[181] and international experiences in nursing education.[182,183] One review that aimed to study structures and processes in the development of a culturally competent workforce included primarily descriptive articles,[184] and a contextual review included articles that normally would not be included in a systematic review of interventions. Two reviews included studies of provider training that fully overlapped with those included by Horvat et al.[186,187] and one review included one provider training study that did not add data to the outcomes reviewed by Horvat et al.[188]

Truong et al. included an earlier influential review by Beach et al.[176] describing the weak study designs overall and lack of uniformity in specifying interventions and measuring outcomes. Much of the literature on healthcare provider training relies on self-reported provider outcomes.[177,183,185] Beach et al. reported positive evidence for the effect of cultural competence training on provider knowledge and attitudes, some evidence that training improves patient satisfaction, and no studies that tested patient treatment outcomes.

The additional evidence contributed by observational studies of provider training within the Truong et al. overview of reviews aligned with the results found by Beach et al.

Observational studies, often with a pre/post design, consistently reported improvement in provider knowledge and attitudes, and patient evaluations of care. However, RCTs have found low strength evidence of no effect on provider knowledge or treatment outcomes, mixed evidence for patient evaluations of care, and low strength evidence of effect on health behaviors and mutual understanding based on single studies. [130]

The eight observational studies from across the five systematic reviews included by Truong that were not included by Horvat or Beach did not add data to three of the five outcomes assessed by Horvat et al.: patient treatment outcomes, health behaviors, and involvement in care. Study designs were primarily pre/post, which precludes strong conclusions. Six observational studies reported improvement in provider knowledge/attitudes after cultural competence training, similar to the findings of Beach et al.[177-180] In contrast, one RCT reviewed by Horvat et al. found no evidence for the effectiveness of provider training on provider knowledge.[189] This study examined clinician awareness of racial differences in the quality of diabetes. Two observational studies reported improved evaluations of care: patient family satisfaction, perceived environmental changes favoring patients' interests and 'ethnic affinity' toward staff.[180] However for this outcomes domain, Horvat et al. reported mixed results. Two RCTs conducted outside of the United States indicated no effect,[190,191] while one RCT showed improvements in patient perceptions of their healthcare providers after cultural competence training.[192]

Interventions to Improve Patient/Provider Interactions

Diverse interventions were used in the six studies that addressed cultural competence in patient/provider interactions (Table 18). Two studies broadly addressed cultural competence in medical visits by African American patients through the use of a "common identity" treatment (to enhance their sense of commonality) with racially discordant patients and physicians[160] or administration of a pamphlet prior to a medical visit.[164] Although we generally excluded culturally tailored pamphlets, we included the Ask Me 3 pamphlet intervention because it was designed specifically to promote patient-provider interaction rather than to communicate specific health information.[164] Two studies examined educational interventions to promote decisionmaking skills and patient empowerment among Latino mental health patients.[162,163] One study examined a culturally tailored collaborative care intervention for physicians aimed at improving the care of African American mental healthcare patients.[161] Lastly, one study examined a culturally sensitive, multi-level intervention (an educational video and brochure for patients along with a patient-delivered paper-based reminder for the physician) designed to improve colorectal cancer screening rates among Latino immigrant primary care patients.[159]

Whereas most studies tended to compare the intervention with usual care, one study compared patient-centered, culturally tailored collaborative care (clinician training to enhance participatory decisionmaking and care management focused on explanatory models, socio-cultural barriers, and patient preferences) versus a carefully-reported intervention defined as standard collaborative care.[161]

Table 18. Interventions to improve patient/provider interactions

Study, Design, Setting	Aim	Sample Size, Population,	Intervention, Comparators	Reported General Findings
Alegria, 2014[162] Randomized trial 13 community	To determine whether an educational strategy that teaches patients to ask questions and make collaborative decisions	(n=647) Mental health patients with predominantly low educational	3-session DECIDE educational intervention vs. giving patients a brochure on management of	Patients assigned to DECIDE reported significant increased activation and self-management , but no

Study, Design, Setting	Aim	Sample Size, Population,	Intervention, Comparators	Reported General Findings
outpatient mental health clinics in Massachusetts	with their provider improves patient activation, self-management, engagement and retention	attainment and non-employment, 66% Latino, 16% white, 11% black	behavioral health	effect on engagement or retention in care.
Cooper, 2013[161] Cluster randomized trial with patient-level ITT analyses Urban community-based practices in MD and DE	To compare the effectiveness of patient-centered, culturally tailored collaborative care vs. standard collaborative care for African-American patients with depression	(n=27 primary care clinicians and 132 patients) African-American patients with major depressive disorder, range of socioeconomic backgrounds	Patient-centered, culturally tailored collaborative care (clinician training to enhance participatory decisionmaking and care management including sociocultural barriers, preferences) vs. standard collaborative care	Both groups showed similar improvements in clinical outcomes; the control group had higher treatment rates; the intervention group had higher odds of patients rating their clinician as participatory and rating their care manager as helpful.
Penner, 2013[160] Randomized trial (at physician level) Family medicine residency training clinic in Detroit, MI	To determine whether an intervention based on the common ingroup identity model would change physician and patient responses in racially discordant medical interactions and improve adherence	Non-Black physicians (n=14; 11 Asian or South Asian, 3 white) and low-income Black patients (n=72)	Common identity treatment (to enhance their sense of commonality) vs. control (standard health information)	Four and 16 weeks after interactions, patient trust of their physician and physicians in general was significantly greater in the treatment condition. At 16 weeks, adherence was also significantly greater.
Aragones, 2010[159] Randomized trial (at physician level) Primary care, urban teaching hospital, diverse, underserved population	To assess the effectiveness of a multilevel intervention in increasing the rate of colorectal cancer screening (CRC) screening among Latino immigrants	(n=65) Pairs of primary care physicians and Latino immigrant patients, age 50 and older	Culturally sensitive, multi-level intervention to promote CRC (educational material for the patient and a patient-delivered paper-based reminder for their physician) vs. usual care	The intervention was successful in increasing rates of completed CRC screening primarily through increasing adherence after screening was recommended.
Michalopoulou, 2010[164] Controlled trial Clinic in Detroit, MI	To evaluate the effect of receipt of the Ask Me 3 pamphlet prior to a medical visit on African American patient satisfaction and perceptions of physician cultural competency	(n=64) African Americans with low income and low educational attainment	Receipt of the Ask Me 3 pamphlet, which encourages patients to ask questions of physicians, prior to physician visit vs. not receiving pamphlet	Intervention participants who saw their regular physician reported higher satisfaction. All found the questions to be helpful.
Alegria, 2008[163] Controlled trial 2 community mental health clinics serving primarily Latino and other minority patients	To evaluate the effect of the Right Question Project-Mental Health (RQP-MH) training on patient self-reported activation and empowerment	(n=231; 141 intervention, 90 comparison) Mental health patients, 80% Latino, with predominantly low educational attainment and low employment	Receipt of a 3-session intervention to teach patients effective questioning, decisionmaking skills, and empowerment in relation to their care vs. not receiving the intervention	Participants showed increased retention, scheduled visits, attendance at scheduled visits, and self-reported patient activation, but not self-reported patient empowerment.

ITT=intention-to-treat

Only one of the six studies assessed clinical outcomes (see Table 19).[161] This cluster-randomized trial of patient-centered, culturally tailored collaborative care versus standard

collaborative care reported a full spectrum of outcomes ranging from depressive symptom reduction and treatment rates to patient ratings of clinicians' participatory decisionmaking and ratings of care managers' helpfulness in identifying concerns, identifying barriers, providing support, and improving treatment adherence. Five of the six studies included patient perceptions as outcomes. Five included outcomes related to healthcare utilization or adherence, and one of these reported only adherence.[159] Two studies evaluated patient-reported activation and empowerment[163] or self-management.[162] One study of a common identity treatment for racially discordant patients and physicians evaluated both patient and provider perceptions of being on the same team, patient trust of their physician and physicians in general, patient perception of patient-centeredness, and patients' adherence to physician recommendations.[160] One study reported the Perceived Cultural Competency Measure, as well as patient satisfaction and perception of participation and fair procedures.[164] No studies examined adverse effects or unintended negative consequences of the interventions.

All six studies of cultural competence in patient/provider interaction reported that their study outcomes support the effectiveness of the intervention.[159-164,170] One study of an educational intervention for patients reported effectiveness in self-reported patient activation and self-management but no effect on treatment retention.[162] One study reported no overall differences between groups, but in a post hoc subanalysis people who were seeing their usual provider were more satisfied if they used the pamphlet.[164]

Table 19. Outcomes for interventions to improve provider/patient interactions

Study	Provider Attitudes or Perceptions	Patient Perceptions	Patient Satisfaction	Healthcare Utilization or Adherence	Clinical Outcomes
Alegria, 2014[162]	NM	↑	NM	↔	NM
Cooper, 2013[161]	NM	↑	↑	↓	↔*
Penner, 2013[160]	↔	↑	NM	↑	NM
Aragones, 2010[159]	NM	NM	NM	↑	NM
Michalopoulou, 2010[164]	NM	↔	mixed: ↑ / ↔	NM	NM
Alegria, 2008[163]	NM	mixed: ↑ / ↔	NM	↑	NM

↑ Significant findings in support of intervention, ↔ No significant findings, * both groups improved with no significant difference between groups, ↓ Significant findings in support of control group, NM=not measured

Culturally Tailored Interventions

The 10 studies of culturally tailored healthcare interventions focused primarily on treatment of chronic physical or mental health conditions (e.g., diabetes, depression, substance abuse) (Table 20). Studies including African American patients examined interventions for diabetes[168] depression,[170] and substance abuse;[174] those including Hispanic/Latino Americans examined interventions for cancer screening,[165] diabetes and depression,[175] pregnancy,[172] and substance abuse;[166,171,174] and studies including Asian Americans examined interventions for phobia[173] and smoking cessation.[169]

Six of the 10 studies of culturally tailored healthcare interventions directly compared a culturally tailored version with a standard version of the same intervention.[165,166,170,171,173,174] Three of these studies involved a single session of psychological treatment[171,173] or a single phone call from a nurse.[165] One study compared 12 weeks of culturally accommodated versus

standard cognitive-behavioral substance abuse treatment (S-CBT).[166] Cultural accommodation involved modifying cultural variables for relevance to Latino adolescents, resulting in a culturally tailored treatment manual.[166] Similarly, one observational study compared 16 weeks of culturally accommodated versus standard cognitive behavioral therapy (manualized) for depression among African American women with multiple psychosocial stressors.[170] One study examined a culturally adapted version of Real Men Are Safe (REMAS-CA), an HIV prevention intervention for Hispanic or African American men in substance abuse treatment.[174] Results of the pilot test of REMAS-CA were compared with results of the original REMAS trial among minority participants.

The other four studies involved less direct comparisons. In a study of diabetes education for black women, the experimental group received slightly more sessions (11 weeks versus 10 weeks) and the intervention had a stronger cognitive behavioral focus than the control group, in addition to being cultural tailored versus non-tailored.[168] In one study of a culturally tailored intervention for smoking cessation among Korean Americans, the experimental group received a 40-minute intervention while the nontailored group received a 10-minute intervention, but the duration was 8 weeks for both groups.[169] One study that included predominantly Hispanic diabetes patients with major depression symptoms compared socio-culturally tailored collaborative care with enhanced usual care.[175] Lastly, one study that included pregnant, immigrant Latinas compared Prenatal Partners (cultural brokers who showed participants how to navigate the health system, self-advocate, and communicate with providers) with usual care.[172]

Table 20. Culturally tailored interventions

Study, Design	Aim	Sample Size, Population, Setting	Intervention, Comparators	Reported General Findings
Breitkopf, 2014[165] Randomized trial 6 Regional and Maternal Child Health clinics in southeast Texas	To evaluate the effect of a culturally targeted intervention on adherence to follow-up among low-income and minority women who experience an abnormal Pap test	(n=341) Minority and low-income women at risk of cervical cancer, age 18-55, 63% Hispanic	3 versions of nurse telephone script (to notify patients of abnormal results): culturally targeted vs. non-targeted patient activation vs. standard care	A theory-based, culturally targeted message was not more effective than a non-targeted message or standard care in improving behavior.
Kim, 2014[169] Randomized trial Delivered by trained therapists in NY and NJ	To evaluate a culturally adapted smoking cessation intervention for Korean Americans	(n=109) Korean American smokers	8 weekly culturally tailored (40 minute) vs. non-tailored (10 minute) individual counseling sessions; both groups received nicotine patch	The rate of biochemically verified 12-month abstinence was higher for the experimental group.
Calsyn, 2013[174] Randomized trial 4 community treatment program clinics	To determine the acceptability and effectiveness of a culturally adapted version of Real Men Are Safe (REMAS-CA), an HIV prevention intervention for men in substance abuse treatment	(n=54 REMAS-CA, n=63 REMAS) Men in substance abuse treatment; subanalysis of African American or Hispanic men	REMAS-CA pilot study results vs. REMAS original trial results	Intervention completion was not significantly different between REMAS-CA participants and minority men in the REMAS study. For men with casual partners, the number of unprotected sexual occasions had higher odds of decrease for REMAS-CA, but for regular partners there was no difference.
Lee, 2013[171]	To evaluate a culturally adapted version of	(n=57) Latino heavy	Single 1.5 hour session of culturally	Significant declines across both groups were

Study, Design	Aim	Sample Size, Population, Setting	Intervention, Comparators	Reported General Findings
Randomized trial Delivered by trained therapists in Providence, RI	motivational interviewing versus a standard version for heavy drinking Latinos	drinkers, English-speaking, mean age 35, mean education 12 years, mostly low-income	adapted motivational interviewing (CAMI) vs. standard motivational interviewing (MI)	found in heavy drinking days/month and drinking consequences, with greater reductions for drinking consequences for CAMI at 2 and 6 months.
Burrow-Sanchez, 2012[166] Randomized trial Delivered by therapists in a Mountain West state	To compare the feasibility and relative efficacy of a culturally accommodated version of cognitive-behavioral substance abuse treatment (A-CBT) to a standard version (S-CBT) among Latino adolescents	(n=35) Latino adolescents with substance abuse referred via the juvenile justice system (95%) or parents (5%), 94% male	Culturally accommodated version of cognitive-behavioral substance abuse treatment (A-CBT) for 12 weeks vs. standard version (S-CBT)	Participants in both conditions demonstrated similar retention and satisfaction rates, and significant decreases in substance use, with slight increases at 3 months. Substance use outcomes were moderated by two cultural variables: ethnic identity and familialism.
Ell, 2011[175] Randomized trial 2 community safety net clinics operated by the Los Angeles County Department of Health Services	To determine sustained effectiveness of socioculturally adapted collaborative care in reducing depression symptoms and improving treatment 1 year following intervention completion	(n=387) Low-income, predominantly Hispanic diabetes patients with major depression symptoms	12-month socioculturally adapted collaborative care (psychotherapy and/or antidepressants, telephone symptom monitoring/relapse prevention) vs. enhanced usual care	At 2 years, more intervention patients received ongoing antidepressants and had sustained depression symptom improvement. For functional impairment, diabetes symptoms, anxiety and socioeconomic stressors, group by time interaction favored the intervention group but was no longer significant at 2 years.
Pan, 2011[173] Randomized trial University on the West coast	To evaluate a culturally adapted OST (OST-CA) versus a standard one-session treatment (OST-S) among phobic Asian Americans	(n=30) Adults of East Asian ethnicity with phobia, mean age 22	Culturally adapted vs. standard one-session treatment vs. self-help	Both OST-S and OST-CA were effective at reducing phobic symptoms compared with self-help control.
D'Eramo Melkus, 2010[168] Randomized trial Nurse-led intervention and nurse practitioner-delivered visits within primary care in urban, southern New England	To compare the effect of a culturally relevant group diabetes intervention with a usual diabetes education intervention on physiological and psychosocial outcomes in Black women	(n=109) Black, predominantly low-income women with type 2 diabetes	11-week culturally relevant, cognitive behavioral group diabetes self-management training (DSMT) vs. 10-week usual diabetes group education with discussion sessions	Both groups improved in metabolic control, quality of life, and perceptions of provider care. The DSMT group had better outcomes in mental health domains at 24 months.

Study, Design	Aim	Sample Size, Population, Setting	Intervention, Comparators	Reported General Findings
Marsiglia, 2010[172] Randomized trial Women's Health Clinic in Phoenix, AZ	To evaluate the effectiveness of a culturally tailored intervention on rates of return of Latinas to a postpartum visit	Pregnant, low-income, immigrant Latina women (n=440)	Prenatal Partners, (cultural brokers who showed participants how to navigate the health system, self-advocate, communicate with providers), one-on-one visits over about 4 months vs. usual care	Initial findings show a significant effect of the intervention, with participants in the experimental group returning for their postpartum clinic visit at a higher rate in comparison with the control group.
Kohn, 2002[170] Cohort study Outpatient Depression Clinic at San Francisco General Hospital	To evaluate cultural adaptation of a cognitive behavioral therapy (CBT) intervention among depressed low-income African American women with multiple stressors (e.g., economic strain, family-related problems)	African American women with major depression and multiple stressors (poor, mostly unemployed and with comorbid health conditions)	Culturally adapted, manualized CBT vs. demographically-matched women who had been previously treated by CBT; 16 weekly sessions of 90-minute group therapy	Women in the adapted group exhibited a larger drop in depression symptom scores; statistical significance not evaluated.

Most studies of culturally tailored interventions reported clinical outcomes and the majority also reported healthcare utilization or adherence (Table 21). One study reported therapeutic working alliance as perceived by the patient and therapist,[173] one study reported perceived provider support for diet and exercise[168] and one reported patient satisfaction.[166] No studies examined adverse effects or unintended negative consequences of the interventions.

One study reported no results in support of cultural tailoring.[165] One study reported no overall results favoring tailoring but supportive results mediated by cultural variables.[166] The other eight studies reported positive findings for culturally tailored interventions. For two studies, both culturally tailored and nontailored interventions were effective with some evidence of additional benefit for the culturally tailored intervention.[168,173] However, one of the two studies ran multiple tests and reported some findings in support of the culturally tailored intervention, but if the authors had corrected the significance level for multiple outcomes, the results would not have been significant.[182] There was some selective emphasis in outcome reporting,[183] and one study did not test outcomes for statistical significance.

Table 21. Outcomes for culturally tailored interventions

Study	Provider Attitudes or Perceptions	Patient Perceptions	Patient Satisfaction	Healthcare Utilization or Adherence	Clinical Outcomes
Breitkopf, 2014[165]	NM	NM	NM	↔	NM
Kim, 2014[169]	NM	NM	NM	↑	↑
Calsyn, 2013[174]	NM	NM	NM	↑	mixed: ↑ / ↔
Lee, 2013[171]	NM	NM	NM	NM	↑
Burrow-Sanchez, 2012[166]	NM	NM	↔	↔	↔ *
Ell, 2011[175]	NM	NM	NM	↑	mixed: ↑ / ↔*
Pan, 2011[173]	NM	↔	NM	NM	↔
D'Eramo	NM	↔	NM	NM	mixed: ↑ / ↔*

Study	Provider Attitudes or Perceptions	Patient Perceptions	Patient Satisfaction	Healthcare Utilization or Adherence	Clinical Outcomes
Melkus, 2010[168]					
Marsiglia, 2010[172]	NM	NM	NM	↑	NM
Kohn, 2002[170]	NM	NM	NM	NM	NM^

↑ Significant findings in support of intervention, ↔ No significant findings, * both groups improved with no significant difference between groups, ↓ Significant findings in support of control group, NM= not reported, ^ treatment group reported larger clinical improvement but statistical significance not assessed
[PAN One study ran multiple tests and reported some findings in support of the culturally tailored intervention, but if the authors had corrected the significance level for multiple outcomes, the results would not have been significant.]

Discussion

Overview

While several studies assessed changes in clinical outcomes, studies that directly address whether culturally competent interventions reduce the disparities gaps between race/ethnic groups and whites are not present in the literature. The included studies focused on comparing interventions within race/ethnic groups, not between ethnic groups, thus inferences about reducing disparity gaps would need to be based on indirect comparisons. One study was targeted at the level of the health system.[159] A few larger minority populations were represented in the literature, but many were not, such as American Indian/Alaska Native or South Asian. None of the included studies specifically addressed people of multiracial or mixed ethnic background. An intervention delivered to and/or tailored based on a sample population might not generalize to others within the same race or ethnic group, such as Hispanic Americans living in different geographic regions or with different levels of acculturation. This is of particular concern considering the predominance of studies of interventions that were culturally adapted to a specific racial/ethnic population.

Racial/ethnic characteristics also often overlap with sociodemographic characteristics that increase likelihood of disparities, such as socioeconomic status and immigration status. Often, interventions aim to address multiple types of barriers to healthcare and health outcomes, rather than isolating cultural competence factors. Additionally, the language of "cultural tailoring" may be used in multiple contexts that may be distinct from cultural adaptations based on race and ethnicity. One excluded study described the cultural tailoring of the intervention as "culturally relevant to socioeconomically disadvantaged women,"[193] exemplifying the issue that approaches used to address health disparities for racial or ethnic minorities may also serve populations of low socioeconomic status. Of the studies included in this review, over half of the sample populations were described as low income and/or low education.

The perspective of cultural competence was used to evaluate studies of diverse interventions aimed to improve the care of minority patients at the provider and system level, which were grounded in a variety of conceptual or theoretical models perhaps contributing to but distinct from cultural competence. Of those studies that rose to the level of experimentally testing cultural competence interventions, we found a heterogeneous mix of studies that loosely fit into two intervention categories: 1) interventions to improve patient/provider interactions and 2) culturally tailored interventions targeted to specific racial or ethnic groups. Lack of uniformity in cultural competence definitions and frameworks has already been noted.[158] This lack of

consensus in defining and evaluating cultural competence may contribute to the heterogeneity of interventions and lack of reported detail on cultural competence components, especially for cultural tailoring interventions.

Literature is sparse for cultural competence interventions focused on patient/provider interaction, and very few studies in this heterogeneous group included outcomes to assess changes in patient-centered outcomes. Interventions targeting cultural competence in the patient-provider relationship are important. Interventions based on theories or frameworks focused on improving communication skills or shared decisionmaking may change the patient-provider relationship. Resulting health outcomes could then potentially transfer to other groups even if a given intervention was targeted to and tested on a specific subpopulation. The limited results in this area coincide with the status of disparities research generally. A prior systematic review of disparities interventions (1979 – 2011) found that most interventions target patients (50 percent) and community members (32 percent), whereas 7 percent target providers, 9 percent target the care team, 3 percent target the organization, and 0.1 percent target policy.[194]

Patient navigation is an area of active research. Interventions in this realm are often described as culturally competent, but are generally not studied with a design that could test the effectiveness of cultural competence. Cultural tailoring may be one aspect of patient navigation, but such interventions aim to address barriers to care broadly. We found no studies that directly compared culturally tailored versus non-tailored patient navigation. Similarly, collaborative care is occasionally described as culturally competent. However, this language may reflect different contextual settings for collaborative care interventions rather than evaluation of the effectiveness of cultural competence. For example, one excluded study compared a safety net clinic serving a minority population with collaborative care versus general clinics (without collaborative care, a safety net function, or a focus on minority populations).[195] This design does not provide evidence regarding the effectiveness of cultural competence.

Cultural tailoring of healthcare interventions often lacks transparency regarding what constitutes the cultural accommodation. Only a few studies published detailed reports of the process of culturally tailoring interventions.[196,197] Much of the literature provided only minimal or no detail regarding the specific features that constitute cultural tailoring of the intervention. Further, cultural competence might be a small component of a multicomponent intervention focused on patient education and self-management. This type of intervention may be suitable for clinical, practical, and ethical reasons, but it does not lend itself to isolating and testing the effectiveness of cultural competence as a specific component of the intervention.

Of the studies that were located, we do not have information to guide us in understanding the extent to which certain interventions could successfully transfer to other minority groups. Even definitions of racial or ethnic minorities cannot necessarily be cleanly applied within clear boundaries. Few studies of culturally tailored healthcare interventions measured patient perceptions, and none assessed factors (such as attitudes and perceptions) that are shared among underserved minorities, such as medical mistrust, experiences of discrimination, immigrant status, or problems communicating with their providers. The inclusion of these factors would help our understanding of how and why interventions might transfer.

Our review excluded many studies of interventions described as culturally competent but lacking a study design that would test cultural competence. Many studies did not use a comparison group that received a nonculturally tailored version of the intervention received by the experimental group. This design issue is exemplified by research on patient education for people in racial or ethnic minority groups with type 2 diabetes. In a recent Cochrane systematic

review of culturally appropriate health education for people in ethnic minority groups with type 2 diabetes mellitus,[198] only one of 33 included studies[168] compared a culturally tailored intervention group with a nontailored active control group. One additional study included by Attridge et al. used an active control group but did not test cultural competence; culturally tailored symptom management was compared with culturally tailored diet and weight management.[199] Half of the included studies compared diabetes education with usual care (waitlist or no outreach), and in other cases the control group received a token intervention such as brochures, newsletters, or occasional phone calls.

Some studies compared two active interventions, possibly with a randomized trial design, but cultural competence was not the variable being tested across the active interventions. For instance, Alegria et al. evaluated the effectiveness of six to eight session cognitive behavioral therapy and care management intervention for low-income Latinos delivered via telephone versus face-to-face compared with usual care.[162]

Community health workers are another area of active research where the language of cultural competence is often used, but where interventions are generally not studied with a design to evaluate the effectiveness of cultural competence. Interventions using community health workers range from advocacy and patient education to disease management.(see http://mnchwalliance.org/explore-the-field/evidence-2/) Some studies framed as addressing disparities through community health workers hired a person from the target racial or ethnic group to deliver the intervention, but were designed to test the effects of two levels of treatment intensity[200] or 2 years of asthma coaching versus usual care.[201] Thus such studies were not designed to test the effects of a culturally tailored versus nontailored intervention, as were the studies of interventions included in this review.

Although prior systematic reviews concluded that evidence supports the use of community health workers who are culturally competent,[179,188] the interventions included in these reviews were heterogeneous. Fisher et al. concluded that community health workers "are among the most successful strategies that emerged from our literature review" despite noting that conditions and interventions were heterogeneous, no studies were designed to examine the effectiveness of the intervention in reducing health disparities, and "none of the studies actually addressed the extent to which the cultural aspects of these interventions brought about the improvements in care, apart from the general mechanisms of quality improvement or public health strategies inherent in the interventions." (p 276S-277S).[188] The studies included by Henderson et al. had similar weaknesses. [179] We found no studies that compared culturally tailored versus nontailored interventions delivered by community health workers.

Research Directions

As noted above, interventions often aim to address multiple types of barriers to healthcare and health outcomes for racial and ethnic minorities. While this is understandable, given the correlation of racial and ethnic minorities and low socioeconomic status, research designed to isolate the cultural competence factors is needed. Such research should specifically test components seen as directly related to cultural competence. For example, patient/provider concordance may jumpstart trust and facilitate communication, but other social factors may interfere with the assumed benefits. Likewise, culturally matching community health workers may help address language barriers and facilitate more open communication than one would see with a concordant physician because of the more similar shared status between the patient and the community health worker. Our understanding could be advanced by testing the role played

by the community health worker and feeding back to the health system what is learned from the patient rather than merely conveying the health promotion or disease management information the health system deems important.

Research that aims to clarify which cultural competence components are relatively universal and easily generalizable and which are truly group or sub-group specific would also make a contribution. One obvious place to extend the research would be in examining what works for people of multiracial or mixed ethnic backgrounds.

Most of the included studies measured only clinical outcomes (such as change in symptoms) or intermediate outcomes (such as healthcare utilization or adherence). These studies did not provide direct evidence that improved cultural competence is a specific mechanism of improved outcomes, or leads eventually to reduced disparities. Studies that examine only clinical outcomes or utilization/adherence may point the way towards interventions that may reduce disparities via improved cultural competence, but the last step is still inference rather than direct demonstration. A more explicit link between cultural competence interventions and clinical outcomes could be made by combining clinical outcomes with intermediate measures of improved cultural competence, such as patient perceptions of cultural competence. Directly connecting observed changes in outcomes and improved cultural competence is important considering the challenges in clearly isolating cultural competence as a concept.

Further, all of the included studies evaluated outcomes of a single group, rather than examining whether the intervention reduced health disparities via improved cultural competence. Comparing clinical outcomes by race/ethnicity could indicate a reduction in disparities in those outcomes (such as if/whether the intervention benefitted a nondominant group more than the dominant group). Studies that assess improvement in cultural competence and show differential results in clinical outcomes between racial/ethnic groups would provide more direct evidence that cultural competence is a pathway to reduced disparities in health outcomes.

Limitations

The major limitation of this review is the difficulty drawing boundaries between patient-centered care and cultural competence. Individually tailored interventions, such as individualized cancer risk assessment in cancer screening education,[202,203] were excluded to distinguish cultural competence interventions from a related concept, patient-centered care.[60] Individually versus culturally adapted interventions may prove to be as or more effective. However, of the two, this review is focused on cultural tailoring of interventions and interventions to improve cultural competence of patient/provider interactions.

Another limitation is that a number of studies of interventions to improve cultural competence in patient-provider interactions are based on conceptual frameworks drawn from social science literature from various disciplines. While study authors may have framed the interventions as being culturally competent, and they may indeed have been consistent with cultural competency models, those interventions used conceptual frameworks drawn from other disciplines. Since the focus of this review was on cultural competence, we did not evaluate theoretical underpinnings that drew from other sources.

Chapter 5. Models and Cross-Cutting Themes

Introduction

This report addresses cultural competence as a construct that can be applied to diverse subgroups. Each subgroup has its own culture. Elements such as alienation and prejudice are likely common to all; but other elements, such as language and physical access, may affect some groups more or differently than others. This chapter provides an overview of models that have been used to conceptualize cultural competence and culturally appropriate care in health contexts. The discussion section examines overarching themes that transcend the three priority populations, disability groups, gender and sexual minority (GSM) groups, and racial and ethnic groups examined in this report.

Cultural Competence Models

To help inform the review process, we undertook a review of cultural competence conceptual models. Specific methods pertinent to this review process are in Appendix A, along with the search algorithm used. We identified 857 unique English language citations from 1990 to February 2014. After excluding articles at title and abstract, full texts of 89 articles were considered as possible sources of models. After checking full text, references, and consolidating models identified, 24 models were identified for examination.

We expected the models to map with the included intervention literature in a useful way and provide an overarching framework for mapping the literature. Instead, the models connected very little with the intervention literature, and the literature was so sparse that a mapping exercise would interfere with the overarching key messages drawn from each priority population group. Here we present the models briefly for informational purposes, while drawing a few high level themes of interest.

All models but one were developed in response to racial and ethnic group concerns (the groups to which cultural competence was first applied). (Table 22) The Inequalities Imagination model intends to cover a much broader set of populations that may be disadvantaged in a formal healthcare system.[204] The model explicitly includes people with disabilities. Because it uses broad definitions of disadvantaged people who have experienced prejudice or discrimination, the model can also be viewed as covering people from the race/ethnic and GSM groups. Models other than the Inequalities Imagination model would include disability and GSM groups only implicitly. The Inequalities Imagination model also goes further than the populations included in this report by explicitly naming people from impoverished situations, although there can be considerable overlap of poverty and people from any of the three priority populations.

Table 22. Cultural Competence models.

Model	Focus	Description	Use
Disadvantaged populations			
Inequalities Imagination model Hart 2003[204]	Provider	7 factors: equalities analysis, equalities awareness, equalities skill, equalities action, cultural knowledge, cultural encounter. Disadvantaged populations: Mental or physical impairment, historical prejudice and discrimination; current prejudice or discrimination, poverty	Training for providers
Models motivated			

by race/ethnic populations			
QIAN model for cultural humility Chang 2012[205]	Provider	4 principles: self-questioning and critique; bi-directional cultural immersion; mutually active-listening; flexible negotiation. Affects patient-provider dyad, and elicit support of family, healthcare system, and community at large	Training for providers
Disability disparities model Lewis 2009[206]	Patient	Includes hypothesized view of what accounts for disparities, macrolevel concepts (5 domains), and microlevel aspects. Incorporates cultural competence aspects, such as disability group's culturally driven help seeking tradition, the extent to which the provider is viewed as culturally competent, patient/provider trust, extent outcomes align with culture	Training for providers
Cultural Empowerment model Garrett 2008[207]	Patient	6 domains: facilitating language (removing language barriers); negotiating family involvement; understanding patient beliefs, expectations, experiences and constructions; being compassionate and respecting patient and human rights; negotiating a care partnership; providing systems so services and providers can be competent Empirically developed from patient views	Training for providers
3-D Puzzle Model of culturally congruent care Schim 2007[208]	Patient	Extends Leininger's Sunrise Model (see below) to include patients as part of the system and how the interaction of patients and providers contribute to culturally congruent care.	Training for providers
CRASH model Rust 2006[209]	Patient/ Provider	7 elements: Importance of culture; respect; assess within-group differences, affirm the positive values behind behaviors seen as different, sensitivity, self-awareness, humility in practicing but not achieving mastery of cultural competence	Training for providers
Explanatory models approach Kleinman and Benson 2006[210]	Patient	6-step mini-ethnography: ethnic identity; what is at stake; illness narrative; psychosocial stresses; influence of culture on clinical relationships; problems of cultural competency approach	Practice tool for clinical encounter
BESAFE model McNeil 2003[211]	Patient	6 core elements: barriers to health care, ethics in cultural competency, sensitivity of the provider, assessment appropriate to a cultural determination, facts related to ethnocentric physiologic differences, encounters	Practice tool for clinical encounter
GREET model Chong 2002[212]	Patient	Specific to non-native patients: generation (how acculturated is patient), reason (for immigration), extended family, ethnic behavior, time living in US	Practice tool for clinical encounter
Model for Cultural Competence Purnell 2002[213]	Patient/ Provider	Systems approach to 12 domains from person through family and community to global society. Domains: communication; overview/heritage; family roles and organization; workforce issues; bio-cultural ecology; high-risk behaviors, nutrition, pregnancy and childbearing practices; death rituals; spirituality; health care practices; health care practitioner concepts	Practice tool for clinical encounter
ETHNIC model Levin 2000[214]	Patient	Facilitate communication by asking questions in 6 areas of process: explanation, treatment, healers, negotiation, intervention, collaboration	Practice tool for clinical encounter
9 cultural competence techniques/ reducing disparities Brach and Fraser 2000[215]	Patient	9 cultural competence techniques that facilitate changes in clinician and patient behavior, which lead to provision of appropriate services, which lead to good outcomes (Model focused on provider side. Other contributors to health disparities not included)	Framework: Providers and systems
Model of Cultural Competency Campinha-Bacote	Patient/ Provider	5 constructs of cultural competence: cultural awareness (including self-awareness), skills, knowledge, encounters (applying knowledge and skills to specific patient care),	Training for providers

1999[216]		and desire to understand cultural issues	
Taxonomy for Culturally Competent Care Lister 1999 [217]	Patient	Five elements: Awareness, knowledge, understanding, sensitivity, and competence	Training for providers
Model of Culturally Competent Health Care Practice Papadopoulos 1998 [218]	Patient	4 stages moving through cultural awareness, cultural knowledge, cultural sensitivity (where patients are considered true partners), to cultural competence	Training for providers
ACCESS model Narayanasamy 1999[219]	Patient	6 domains: assessment, communication, cultural negotiation and compromise, establishing respect and rapport, sensitivity, safety	Training for providers
Cultural Competence Model Culhane-Pera 1997[220]	Provider/ Patient	5 stages of development from no insight, through minimal emphasis, acceptance, incorporation, and integration of attention to culture in all areas of professional life	Training for providers
Transcultural Model Giger and Davidhizar 1995 [221]	Patient	5 domains: communication, space, social organization, time, environmental factors, and biological variations	Practice tool for clinical encounter
BATHE model Stuart and Lieberman 1993[222]	Patient	Focus on providing culturally competent environment: background, affect, trouble, handling, empathy	Practice tool for clinical encounter
Developmental Model of Ethnosensitivity Borkan 1991[223]	Provider	7 stages of developmental from ethnocentric to ethnosensitive: fear, denial, superiority, minimization, relativism, empathy, integration	Training for providers
Four-step Approach to Providing Culturally Sensitive Patient Teaching Kittler and Sucher 1990[224]	Patient/ Provider	Four-step process of self-evaluation, pre-interview research, in-depth interviewing, and unbiased data analysis	Practice tool for clinical encounter
Cultural competence continuum model Cross 1989[225]	System	System development through 6 stages: cultural destructiveness, cultural incapacity, cultural blindness, cultural precompetence, cultural competence, cultural proficiency	Training for providers
Sunrise Model Leininger 1988[226]	Patient	Holistic view of sociocultural and worldview factors that influence care patterns, which in turn influence well-being; incorporates nursing subsystem. Focuses on views of patient	Practice tool for clinical encounter
LEARN model Berlin and Fowlkes1983[227]	Patient	Facilitate communication regarding health belief systems: Listen, explain, acknowledge, recommend, negotiate	Practice tool for clinical encounter

The majority of models, whether created for training purposes or to provide a practice tool for clinical encounters, focused on patient factors. That is, the model describes what patients bring to the clinical encounter, often based on attributes believed to be associated with cultural groups. A much smaller set focuses more on what the provider brings to the encounter. With the provider-focused models, providers are encouraged to self-reflectively examine their own biases and habits of thought. However, the distinctions between patient-focused and provider-focused categories should not be overemphasized. All models necessarily incorporated both views, and differed primarily in their degree of emphasis.

Of the provider-focused models, the Inequalities Imagination model is unique in its main focus on encouraging the provider to move beyond "politically correct" thinking and develop true empathy by imagining experiences from the perspective of the patient.[204] The imagination process is explicated as a specific learning technique. First, a provider must bring to mind the

experiences of others and consider how previous behaviors could be changed. The provider is further challenged to bring to light cognitive processes from the subconscious levels.

Another model is noteworthy for its development process. The Cultural Empowerment model was developed by gathering information from focus groups about the factors that non-English speaking patients view as constructing culturally competent care.[207] This patient-centered process to construct a culturally competent care model is concordant with the models generated through academic expert-based or theoretically driven models.

The trend over time is that newer models are more provider-focused. They reflect developments in the conceptualization of cultural competence, particularly cultural empowerment and cultural humility, which encourage providers to consider their own place of privilege. These models emphasize that providers do not have to know everything, and patients can have expertise in their own experience and an active role in sharing information. Newer models also focus on external factors, such as structural and individual discrimination (present and historical),) that priority populations face in the health care system.

Two other reviews of the cultural competence literature are notable. A 2010 review by Williamson and Harrison categorized cultural competence models related to midwifery and nursing into two groups.[228] One group of models used approaches that were patient-focused, attending to the characteristics of the group itself, explaining health status using individual behaviors and beliefs. The other group focused on the larger social structure within which the patient-group lives, including the impact of colonial processes on patient/provider relationships. These frameworks concentrated on social position rather than individual beliefs and values as health determinants.

In the second paper, Saha and colleagues conducted a review of cultural competence models in order to derive a measure for provider cultural competence.[229] The final measure used 20 items that mapped to 6 domains: concept of culture; relevance of sociocultural context; disparities in health and healthcare; diverse beliefs and behaviors; cross-cultural care; and patient-centered communication.

Overview of Cross-Cutting Themes

Overall, the literature on interventions to improve cultural competence in the healthcare system is very sparse. Not surprisingly, the largest blocks of literature addressed provider training. However, although the cultural competence training is intended to improve quality of care and downstream health disparities, no studies included outcomes that demonstrated whether a health disparity gap had been reduced. This holds true for interventions aimed at improving provider/patient communication, or attempts to culturally tailor interventions to better meet specific priority population group's needs. Further, large segments of vulnerable or disadvantaged populations remain essentially invisible in the cultural competence literature, including children with disabilities, people who may be gender nonconforming or transgender, or numerous racial or ethnic groups including Native Americans or Alaskan Natives. This is compounded for people who are members of more than one priority population.

Interventions at the system level are also rare. We found only five studies, two each in disabilities[23,24] and GSM populations[108,109] and one in the race/ethnic groups,[159] which tested interventions aiming to integrate cultural competence into the healthcare system itself by intervening structurally at the point of care of patient/provider interaction using formal system documents, not a one-time training or a brochure picked up in the lobby. The strategies involved prompting clinicians to provide culturally competent care, regardless of any individual

clinician's placement on a cultural competence developmental continuum. The literature was also silent on system-level concerns such as designing welcoming environments or physically accessible spaces into conventional healthcare system spaces.

The challenges with the methodological rigor of the studies are pervasive across the priority populations. A 2005 review noted that the lack of rigor limited the ability to assess the impact of provider training on racial and ethnic minorities.[230] We found essentially the same challenges after we extended the scope of groups covered to include disability and GSM populations and broadened the potential range for cultural competence interventions. One of the most common reasons for excluding an article was lack of study design rigor.

Differences Among Populations

All three priority populations, race/ethnicity, disability, and GSM, face historical and current stigma and discrimination in society and the medical community. This fosters social distance, mistrust, differential treatment, and downstream disparities. However, cultural competence interventions need to recognize the differences in underlying constructs and social formulations used by each priority population. Interventions must also recognize within-population differences as well. Table 23 provides examples of between-population differences in what may be salient aspects of cultural competence.

Table 23. Examples of different aspects of cultural competency by subgroup

Aspect	Race/Ethnicity	Disability	GSM
Physical Environment		Access to clinic, examining table, remote access	Accessible restrooms
Social Environment	Sense of being welcomed, absence of prejudice	Sense of being welcomed, absence of prejudice	Sense of being welcomed, absence of prejudice
Cultural Mores	Talking to elder; not discussing death		
Language	Need for translation; assuring you are understood	Need for translation (deaf community); assuring understanding	Misusing terms
Clinical	Recognizing disease presentation; assuming most probable cause of a problem	Managing a common clinical problem in the context of the disability; managing complications of the disability	Knowing what problems may be associated with sexual behaviors

The IoM 2002 report carefully noted that health disparities for racial and ethnic minorities arise from both biologic/genomic differences and larger ecological/environmental sources of health determinants outside the healthcare systems. [231] The report also clearly laid out the challenges to addressing health disparities, especially discrimination and implicit bias at the individual and clinical encounter level, and institutional stigma and discrimination at the system level.[231]

Efforts to improve cultural competence for the care of people of different racial and ethnic backgrounds must go beyond weaker types of interventions such as language translation, tailoring existing media such as health promotion videos or patient education brochures, or the assumption that hiring a bilingual or bicultural worker is sufficient for cultural competence. Interventions must simultaneously address fundamental beliefs people hold about the nature of disease, what are causal mechanisms, and expectations of treatment. Another key piece to address is the impact of discrimination within and outside of healthcare, which are experienced by these groups and affect many aspects health and healthcare (such as adherence, utilization, and substance use).[145] Other issues that affect racial/ethnic minorities include the enduring

effects of residential segregation,[232-234] which also affects the clustering of racial/ethnic minorities into certain healthcare facilities, which have been shown to have fewer resources than facilities where nonminorities get care.[233,235]

Another confounder is the frequent association between racial/ethnic minority status and poverty. Medicaid disproportionate coverage may pose limitations to access to care or restrictions in options. Medicaid coverage also adds another layer of stigma to populations experiencing discrimination within the health care system.

For disability groups, the underlying political and social culture is based on achieving equity of access to all of life's opportunities. Therefore, major advances such as the Americans with Disabilities Act have been based on a civil rights platform. People with disabilities typically do not view their disability as a medical problem, although it may complicate medical care. Therefore, they frame outcomes of care somewhat differently from the way mainstream medicine might.[236] Their problems in accessing competent medical care reflect several issues: getting care in the context of their disability (most medical providers have limited experience treating a traditional medical problem experienced by someone whose underlying disability may affect treatment and prognosis), getting physical access to medical facilities (e.g., transportation, entrance, examining tables, etc.), and the general discomfort clinicians may feel caring for patients with disabilities. For some people with disabilities, cognition may pose a problem in understanding of treatment options. However, this same problem applies to older people with cognitive impairment, except for the risk of stereotyping and premature judgment about cognitive abilities. Many people with disabilities may be covered by Medicaid and face the same limitations to access to care or restrictions in options faced by other minorities.

Cultural competence interventions in the GSM population need to be sensitive to the invisibility of the population. While the race and disability populations likely produce an implicit bias or social distance on sight, GSM people may elicit a straight bias from clinicians who do not consider sexual or gender orientation status. People with disabilities that are not immediately apparent (such as mental health disabilities and Autism Spectrum disorders) may experience disparities associated with their hidden disabilities. Similar to the visible disability populations, GSM people may not feel welcomed by clinicians and staff and may face clinical ignorance about how to address (or even raise) salient health-related issues. Internal and external stigma may interfere with disclosure and the ability to receive effective care. GSM people are more educated, on average, than the general population, but may have less access to insurance than their straight counterparts.[237]

A New Term?

Much has been written deconstructing and/or constructing the concepts and common uses of cultural competence. The cultural competence construct is not an entirely comfortable fit for disability populations, because identification with disability is not always viewed as a positive in-group dynamic. Concerns have also been raised about cultural competence programs that use a group-specific approach to teach providers about the attitudes, values, and beliefs of a specific cultural group. Such approaches can lead to stereotyping and oversimplifying the diversity within a particular priority group.[238] Indeed, our review identified one study that resulted in this adverse consequence for the disability population.[21] As long as cultural competence models focus on tailoring interventions for specific populations, outcomes will depend on the degree to which a person identifies as part of the target "culture."

The broader concept of diversity competence may be more appropriate in regard to the full range of populations that experience health disparities. The recent shift towards cultural empowerment and cultural humility is encouraging and also consistent with the recommended shift toward structural equity-focused interventions.

It may be time to replace the "cultural competency" term with one that focuses on external, structural factors that contribute to disparities. Ford and Harawa present a useful framework that distinguishes between the "attributional dimension" and the "relational dimension."[239] The attributional dimension describes characteristics internal to a group, such as culture. The relational dimension characterizes a group's location within a social hierarchy and how that location results in disparities. For example, a group's location within a social hierarchy may result in structural and interpersonal discrimination (current and historical), exclusion, and stigmatization. Cultural competency interventions were developed with a focus on the attributional dimension (e.g., cultural practices and beliefs within a particular ethnic group). However, current research on disparities emphasizes the relational dimension.

A large body of literature has shown how discrimination and inequality harms the health of socially disadvantaged groups through multiple pathways, resulting in disparities.[145,240,241] Repeated discrimination is a source of chronic stress, resulting in damage to the immune system, inflammatory disorders, and cardiovascular disease, as well as mental health disorders and cognitive impairment (see Mays et al., 2007,[242] for a review). Discrimination is also associated with lower levels of adherence and healthcare use, greater mistrust in healthcare, and poorer communication with providers.[240,242,243] Unconscious bias can lead to poorer communication on the part of healthcare providers and biased clinical decision-making. Many of the cultural competency interventions we reviewed addressed these barriers by seeking to reduce stigma among healthcare professionals or improving healthcare providers' skills at communicating with members of racial minority groups. Given this, it seems problematic to use the cultural competency label to describe interventions designed to reduce disparities. Cultural competency focuses too much attention on the internal characteristics of group (i.e., their culture) while drawing attention away from the external factors (discrimination, exclusion) that contribute to disparities. Instead, we might call such interventions "equity interventions" to more accurately emphasize their goal.

Research Directions

We need an evidence-base for cultural competence interventions. Two other reviews found that, similar to our findings, the research was not connected to disparities-related outcomes, the disparities addressed were minimally defined, and little concrete detail was provided on the cultural competence strategies used.[215,244] However, the sheer number of studies that would be needed to address every possible subset of disability, GSM, and race/ethnic groups is daunting. A key direction for future research requires shifting models. Rather than attributional models that focus on the internal characteristics (or "culture") of groups, research can use relational models that focus on the devaluation and exclusion of these groups within the broader society. This approach may also help to mitigate unintended consequences that could develop if research based on attributional models is generalized to a population for whom that particular approach is not a good fit.

Cultural competence research for the wider priority populations will require interdisciplinary approaches. These interdisciplinary teams will need to draw from the same skill pool as they reach across different academic, policy, and layperson cultures. As a simple example, team

members for this project were drawn from diverse fields, disciplines, and research interests. The research process required synching language, since terms used in one academic culture did not automatically transfer to other academic cultures. While the process was complicated by the multiple perspectives brought to the task, however, those variations facilitated broader examinations of the constructs, and produced a more nuanced examination of cultural competence.

A call has been made to employ cultural sensitivity within the general health services research process.[245] This call is similar to exhortations to incorporate the concept of universal design into health services research that reaches beyond disability-specific research.[246] Research teams that include inside and outside perspectives (of study populations and researchers) can better capture both nuance and missed opportunities. Interdisciplinary and culturally sensitive research teams would weigh the trade-offs between generic instruments (that maximize what is common across groups) and culturally sensitive instruments (that narrow in on the issues most salient to a specific cultural group, or what works for whom). As the common wisdom says, we pay attention to what we measure.

Patients should be seen as active participants in the complex patient/provider/healthcare system. The relational models are better suited to working with patients who are not just members of a singular culture but rather a mosaic of cultural influences.[247] Ultimately, the ability to provide culturally appropriate care may rely on some capable patients to act as an active part of the system by providing meaningful feedback so the system can learn. Involving patients in a participatory research process to help determine the concerns and outcomes of most interest to each group is common across all the priority populations.

All of this research would benefit from designs that follow downstream effects to capture whether the interventions closed the disparities gap. Interventions that raise the quality of care for all patients regardless of group membership is certainly welcome, but does not necessarily help reduce the difference.

Conclusion

The Office of Minority Health has dedicated an initiative to supporting cultural competence and has set cultural and linguistic standards for organizations to meet. Organizations also feel the pressure of legislative mandates and the need to be competitive in serving diverse groups and populations.[248] These efforts are aimed at worthy social goals of reduced disparities and health equity.

The intervention literature identified in this review in support of cultural competence is sparse. Cultural competence is ill defined, particularly in the gender and sexual minority and disability populations. It is often conflated with patient-centered, or individualized care.

The most prevalent type of cultural competence intervention is the provider training. Yet, little evidence supports the effectiveness of provider trainings. Long-term effects of such programs on provider behavior in the clinical setting and subsequent patient health outcomes have not been evaluated. Further, traditional provider cultural competence trainings based on attributions of a culture have the potential for unintended consequences, such as reinforcing stereotypes or increasing stigma.

For each population, we identified interventions at the individual level to improve patient/provider interactions, often with cultural tailoring. These studies met inclusion criteria if they targeted a population of interest and were conducted by a medical professional in a formal healthcare system. Frequently, these interventions placed responsibility on patients more than

providers or systems, without requiring either the provider or the system to become more competent. These programs tended to weigh heavily on common identity and cultural attributions and, in some cases, were less effective in subpopulations that were less tied to the community.

Five system level interventions were identified that address disparities in one of the target populations, but do not necessarily require a provider to be competent. The most prominent example of such an intervention was patient-held medical records that prompt providers to evaluate areas of known disparity for a specific population. These point-of-care interventions were seen in all three population groups.

We need better understanding of how cultural competence differs between and within groups. For example, people with a physical disability experience more screening disparities because of limitations of the physical plant, whereas people with intellectual disabilities are more likely to not have secondary conditions diagnosed and treated. The interventions to address these disparities must also be different. There is also significant between and within group variation in population visibility that affects interventions to reduce disparities. For members of sexual minority populations, which are more invisible, cultural competence interventions may focus on reducing heterosexual bias among providers, whereas provider bias to racial and ethnic minority populations is immediate and based on perceived characteristics.

The "cultural competency" label itself may be outdated, because it emphasizes the "internal culture" of groups. A more useful term might be "equity interventions," which emphasizes equity as the desired outcome. More important than labels is that interventions address structural barriers faced by priority populations in order to attain health equity. Future research with greater methodological rigor and greater attention to relational rather than attributional dimensions to meet the heterogeneity of these populations is needed.

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Abbreviations

AAMC	American Association of Medical Colleges
A-CBT	Accommodated version of cognitive-behavioral treatment
AHRQ	Agency for Healthcare Research and Quality
AIAN	American Indian and Alaska Native
AIMS2	Arthritis Self-Efficacy Scale
ASO	AIDS service organization
BV	Bacterial vaginosis
CALD	Culturally and linguistically diverse
CAMI	Community Attitudes towards the Mentally Ill
CBT	Cognitive behavioral therapy
CC	Cultural competency
CENTRAL	Cochrane Central Register of Controlled Trials
CER	Comparative Effectiveness Review
CES-D	Center for Epidemiological Studies Depression Scale
CHAP	Comprehensive Health Assessment Program
CHS	Community Health Survey
CM	Contingency management
CMPPQ	Comorbidity Problems Perceptions Questionnaire
CVD	Cardiovascular disease
DSMT	Diabetes self-management training
END	*Education Not Discrimination*
ERMIS	Emotional Reactions to Mental Illness Scale
ESL	English as a second language
FIS	Fatigue Impact Scale
FSS	Fatigue Severity Scale
GBM	Gay and bisexual men
GP	General practitioner
GSM	Gender and sexual minority
HAART	Highly active antiretroviral treatment
ICF	International Classification of Functioning, Disability, and Health
IDs	Intellectual disabilities
IES-Revised	Impact of Event Scale-Revised
ITT	Intention to treat
LGBT	Lesbian, gay, bisexual, and transgender
MAALES	Men of African American Legacy Empowering Self
MAKS	Mental Health Knowledge Schedule
MHFA	Mental Health First Aid
MI	Motivational interviewing
MICA	Mental Illness: Clinicians Attitudes Scale
MS	Multiple sclerosis
MSM	Men who have sex with men
NSFG	National Survey of Family Growth
OMS-HC	Opening Minds Scale for Health Care Providers
OST-CA	One session treatment—culturally adapted

OST-S	One session treatment—standard
PASHIN	Providers Advocating for Sexual Health Initiative
PCP	Primary care provider
PHP	Personal health profile
PICOTS	Population, Interventions, Comparators, Outcomes, Timing, Settings
PP	Prenatal partners
PRS	Prevention Research Synthesis
PTSD	Post-traumatic stress disorder
QLS	Quality of Life Scale
RA	Rheumatoid arthritis
RAPID	Rapid Assessment of Disease Activity in Rheumatology
RCT	Randomized controlled trial
RENAS-CA	Real Men Are Safe—culturally adapted version
RQP-MH	Right Question Project-Mental Health
S-CBT	Standard cognitive-behavioral substance abuse treatment
SMM	Sexual minority men
SMW	Sexual minority women
STI	Sexually transmitted infection
SUN	Study to Understand the Natural History of HIV/AIDS in the Era of Effective Therapy
WAI	Working Alliance Inventory
WSW	Women who have sex with women